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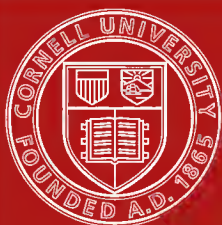
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# ELMIRA FARMERS' CLUB.

## Reports of Discussions

FOR THE YEAR 1874.

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*PUBLISHED BY THE CLUB.*

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Reported for the **ELMIRA DAILY ADVERTISER**, and for the **HUSBANDMAN**.

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# INTRODUCTION.

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## HISTORICAL SKETCH.

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It has fallen upon me to prepare an introduction to this the first published volume of the reports of the Elmira Farmers' Club.

The Club has been often urged to preserve its reports by putting them in convenient form for reference and use. In compliance with this demand, which has come from its many friends in different parts of the country, the Club has provided a small edition of its reports for the year 1874, which is nearly exhausted by the orders already received.

The exacting and constant duties which now engage the attention of Secretary Armstrong, have prevented him from giving his personal attention to the publication, hence no revision of the reports has been made. For the information of new acquaintances of the Club, and as relating to a career quite remarkable, I propose to give a brief review of its history. Not having been prominently connected with the Club, I feel at liberty to speak concerning its growth and successful labors with some degree of freedom.

The Elmira Farmers' Club was organized on the 14th day of December, 1869. There were present at this first meeting the following farmers: Geo. W. Hoffman, W. A. Armstrong, James McCann, Charles Heller, Lewis Fitch, Samuel A. Chapman, Seely P. Chapman, John Bridgeman, Samuel Carr and Daniel E. Howell. These practical and thoughtful farmers did not fully measure the importance of that little meeting as they gathered about the stove in a rude wagon shop, having the light of a single tallow candle. They were agreed that they could be of great service to one another by counseling concerning farm methods and by investigating such agricultural questions as were of interest to them. But that they were to perform a great service for the agricultural advancement of their country, that their discussions were to be read with interest and profit throughout the length and breadth of the land, that there were in that little party men whose ability and worth should shine out brightly through the discussions and labors of their Club, they did not fully realize.

G. W. Hoffman was elected President, W. A. Armstrong Secretary, and Seely P. Chapman Treasurer. The first discussion was held on the evening of December 22nd. Secretary Armstrong reported the discussion and modestly submitted it to the editor of one of the city papers. Concerning this little incident, the editor of that paper, Mr. C. G. Fairman, at a reunion on the third anniversary of the Club, on which occasion the Secretary was presented with a beautiful set of silver, spoke as follows :

"In the fall of 1869, the Elmira Farmers' Club was organized, and very soon thereafter I was waited upon at my editorial sanctum in the *Advertiser* office by one Armstrong, whose first name is William A., a farmer residing just upon the brow of the West Hill. He bore in his hands a little roll of paper, which he placed upon my table and modestly remarked that it was a report of the discussion at the Elmira Farmers' Club, and requested that it might be published. After he had retired I took up the roll of manuscript and began to glance at it with no other idea than that it would soon go into the waste basket, for the faculty of reporting such a discussion with intelligence and interest is a very rare one, which many who have been drilled at it for years in the schools of journalism fail to acquire. Indeed, it can not be acquired. It may be improved. But nature implants it in the breast of him who has it, and he who has it not cannot get it. You need not be surprised, therefore, that I looked with apprehension upon the daring effort of this plain farmer man from the West Hill. You have all taken up articles to read, the first sentence of which has confirmed you in reading them through. Just so you have all been chilled by an opening paragraph, and have doubtless thrown much good wheat away as chaff. I began with Mr. Armstrong's report, and I was at once charmed with its beginning. I saw that a master hand grew out from that farmer head, and that the *Advertiser* had drawn a prize in the great Agricultural Lottery. The waste basket was cheated of its prey. All that went into it was the useless manuscript after it had been transformed into letters of living light and received the magic touch of the printing press. I do not say too much when I seek to impress upon you the fact, that the regular publication of your reports has been the foundation stone of your great prosperity; and I say altogether too little when I declare that no other man lives, either in the town or city of Elmira, who could have reproduced your discussions with the skill and success of Mr. Armstrong. It has not only been a work of great skill, but it has involved great industry and hard labor."

These reports were eagerly sought. They were so plain and practical, they supplied the kind of literature which is far too rare even in our best agricultural papers. The thoughts presented in these discussions, the advice, the counsel given to correspondents, were all fresh from the actual experiences of the farm.

The Club rapidly increased in membership. Progressive farmers from neighboring towns, then from adjacent counties, and afterwards from other States even, sought membership in this enterprising and prosperous Club.

For three years it held its meetings in a small hall belonging to one of its members. A library was started. Gen. A. S. Diven gave \$250; as much more was immediately raised. A competent committee selected the books. A valuable collection was made of such books as were of special interest to farmers and their families, including all the standard works upon agriculture, horticulture and floriculture in their various branches. This library has received several important additions, and includes now 2,000 valuable and much read volumes.

Three years ago the Club resolved to build a hall suited to its wants. At this time there was quite an effort to get it to locate in the business part of the city, as it had won for itself great popularity as an important institution of Elmira. But wise counsels prevailed, and it was resolved to keep it near the scene of its nativity, among the farmers who had started and built it up.

Though always welcoming to its meetings the "city farmers," it realized that its plain, laboring, practical farmers would not feel that freedom to engage in the discussions were its hall so located that there would be a large audience of professional and business men. However earnest in their sympathies, many such spectators would be known as accomplished speakers, and their presence would embarrass the free and unvarnished speeches of professional workers and careful observers, but not speech makers.



For building the hall members advanced liberally of their means. Mr. David T. Billings presented the Club with a lot. A substantial and showy two-story building, adorned with a lofty tower and flag staff, was erected, having in the second story the spacious hall.

The library is neatly arranged in the alcove of the tower off the main room. The lower story of the building had not been used except on the occasion of the Club festivals, or as a place for exhibiting farm products and machinery brought for the inspection of the Club, until last summer, when several influential and enterprising members of the Club organized THE HUSBANDMAN ASSOCIATION and commenced the publication of an agricultural newspaper. To this new undertaking the Club has lent the most earnest aid, furnishing its spacious and commodious rooms. There, right among the farmers, in the Farmers' Hall, owned, edited and managed by farmers, is to be seen one of the most complete and practical printing offices in the country. With material entirely new, supplied with a finely-working engine, with the rooms heated by steam, with the best of workmen, who take pride in their work, a paper is weekly issued which is not only a source of pride to the Club, but which is rapidly gaining favor all over the country on account of its practical and fresh farm literature, and its thorough devotion to the farmer's cause.

He who has in his unselfish devotion to agricultural progress, by his ability as a writer, by his inimitable reports placed the Elmira Farmers' Club far in the van of all similar bodies, and has achieved merited distinction for himself, is ably conducting the editorial management of the HUSBANDMAN.

I mention the character and success of the paper because it is really a Club enterprise, in which not only the Secretary, but President Hoffman and many of the leading men of the Club are earnestly interested, giving it the support of their active minds and ample means.

No enterprise in which the Club has engaged has lacked a vigorous push, nor has come short of a reasonable success. The implement trials which it has conducted have been among the most important of the country, calling into competition scores of machines and attracting thousands of farmers. The selection of this county by the State Agricultural Society as a permanent location for the State Fair Grounds, was mainly due to the impetus given to agricultural improvement in this section through the exertions of the Club. The President of the Club, G. W. Hoffman, a man of vigorous thought, of quick perception and prompt action, by his practical knowledge of agriculture and his great executive and general business ability, has stood as a mountain of strength. It is but just to say that men of unusual talent and of especial fitness for the work assigned them, have constantly served as his able coadjutors.

The Farmers of Chemung County and citizens of Elmira feel a just pride in the success and important work of the Club, and many intelligent farmers in far distant States freely declare that the reports of these discussions are worth to them more than the cost of any agricultural journal in the country.

J. S. VAN DUZER.



# ELMIRA FARMERS' CLUB.

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## COLORADO LETTER.

SATURDAY EVENING, January 3, 1874.

The following exceedingly valuable letter was written by a member of the Club who desires his name withheld, but as a guarantee of its genuineness the Club vouches for the character of the writer, who is a gentleman well known in this portion of the State. The letter was written in Denver, Colorado. The writer is a close observer and a clear thinker. The observations made and the facts gleaned have the force of truth, which made its impression on the mind of the gentleman in such a manner that to-day he has his herds on "the plains" lazily transmuting the scanty though rich herbage into glittering and substantial wealth. He writes:

*W. A. Armstrong, Secretary Elmira Farmers' Club:*

I have just spent eight weeks in the far Western States and in Colorado, much of the time among the stock men of Kansas and Colorado. I have seen droves of two thousand head of Texas cattle, some of which are very good. The cows of this class mated with short horned bulls produce really fine stock. Kansas has as much grass on one acre as Colorado has on twenty, yet the cattle do better on the scanty feed of the Territory, because it is very sweet and exceedingly rich and nutritious. I send you samples of Colorado grass, which you are to understand grows very thin. Some cattle men permit their stock to run the whole year without

even seeing them more than once, which is in the spring, when they go all over the country and gather up all that can be found, into one place called the "Round-up." There they are assorted by their respective owners, and each animal receives the distinctive brand when all are again turned loose, when away they go to graze and multiply at will until the next annual assembly at the round-up.

This, however, is not the general practice. The more methodical breeders keep men with their herds all the time, and carefully keep herds of different ownership distinct, each having a separate range, and this is a far better way and more certain of profit.

All this country constituting the great cattle range is undulating, with no timber except on the margins of streams, in which may be found the finest water, for it comes from the pure snows melting in the mountains not far away, where it glistens in the sunlight pleasant to the view of the herdsman, in every month of the year. The mountains contain valleys of surpassing loveliness, where the footfall sinks in a cushion of the richest herbage, the limped streams stored with delicious fish, and where every breath of air is exhilarating as the ambrosia of fable. I went yesterday up to Estes Park, which is about twenty miles from the plains, (the common designation of all the lower land,) and about five thousand feet higher, and with an altitude of twelve

thousand feet above the sea. Long's Park is near. The Park is a valley of about thirty thousand acres in extent. It has the finest grass and water and is adorned with numerous beautiful trees so disposed as to suggest the idea that nature in this, her paradise, has especially desired to please the eye, while giving adequate protection against the fierce glare of a noonday sun, which looks in through an atmosphere so remarkably pure that the retina has pictured upon it the distant landscape as distinctly clear as if it were within a stone's throw. Yet all this beauty is visited, perhaps adorned, by nightly frosts. In this valley Messrs. Brown and Southrop have eight hundred head of cattle. A few figures, which I obtained from Mr. G. G. Evans, will interest some members of the Club. Two years ago these gentlemen sent five hundred head into this valley, and a year later four hundred head. The nine hundred head cost nineteen thousand dollars.—From these they have sold to the amount of eleven thousand dollars, and to be precise, have now seven hundred and fifty head worth twenty-five dollars per head, and two hundred and fifty young ones worth ten dollars apiece. Remember, it costs nothing or thereabouts to keep, so let us make up the account thus:

750 head @ \$25 .....	\$18,750
250 young, @ \$10 .....	2,500
Sales .....	11,000
	<hr/>
	\$32,250
Deduct original investment .....	19,000
Leaves profit .....	\$13,250

All this in Colorado, as the result of a little capital fairly invested and left to take care of itself for two years. Nowhere in the Territory is hay or grain fed to cattle. Some graziers prefer mountain ranges and some plains; but everywhere the cattle are fat, some of them *very fat*. Drovers are here from Iowa, buying all the

steers they can get to take home and be fed with corn until spring, and then sent east, first-class beef. It is alleged that these steers when put to corn feed, take on fat much better and more profitably than the home reared. The price here ranges from three to three and a half cents per pound, live weight. My friends, McCann of Elmira, and Carpenter of Big Flats, can get good steers here for feeding. Send them out.

Of course you understand no cultivated crops can succeed here without irrigation—nothing but the native grasses, not a shade tree nor any kind of grain without irrigation, except the trees in favored valleys and along streams where the roots reach down to moisture.

I met to-day at Greeley, G. S. Hill, from Hillsboro, thirteen miles distant.—He has been in the territory thirteen years, and has been raising cattle since 1865, when he commenced with just two thousand dollars—all the capital he had. After five years in the business, in 1870, he sold his herd for sixteen thousand two hundred and eighty-eight dollars, which, deducting his small capital, stands as the profit of his venture, for he had all the time supported his family out of the business. He began with a few American cows, (which means cows driven in from the old States, or their descendants), and used short horn and Devon bulls. The latter he likes better because hardier.—His three-year old steers have averaged eleven hundred and fifty to twelve hundred and fifty pounds each, and he has usually sold for three cents per pound.—He feeds no hay nor grain, and lets the calves run with the cows until their instincts or disagreements bring about the weaning. He thinks calves so raised make as good steers at three years old as those raised by hand at four or five years old.

The cost of the three year old steer thus raised, he estimates at from three to five dollars exclusive of the interest on capi-

tal invested in the mother, which at the high rates prevailing, may be put down at three dollars, making the average cost of the steer when he goes to market, six to eight dollars.

Mr. Hill has now on hand two hundred and thirty-six head of cattle, forty of which are two year old steers, for which he has already been offered twenty-eight dollars per head. He gives some attention to the rearing of horses, and thinks a three year old colt costs no more than a steer of the same age, except what is due to the greater cost of the mare, than of the cow. He has now thirty horses on his farm, which embraces four hundred and thirty-six acres. His grain crop is mostly wheat, of which for the last three years he has had each year seventy-five acres, averaging thirty-seven bushels per acre, or two thousand seven hundred and seventy-five bushels for his yearly crop. The crop makes but little cost beyond labor and seed; there are no rains, and it can stand safely in shock until a convenient season for threshing, which is usually done in the field. The seed is sown about the first of March, and the land irrigated about the first of June, with the water kept on until the tenth of July. Harvest comes in August. Oats do not succeed as well as they did five years ago. Now, thirty-five to fifty bushels to the acre is a good crop, which is not more than a fair crop in well tilled lands in New York State. Barley yields from forty to sixty bushels to the acre.— Mr. Hill has land which he says has been cropped for eleven successive years without any return of fertilizing matter, except what comes through irrigation, and during all this time there has been steady annual improvement in the yield. He says he has raised on several acres an average yield of wheat to the acre, of fifty-four bushels. The cost of irrigating, which varies somewhat according to localities, expense of appliances, etc., is in his case about fifty cents per acre. Of course,

this is quite independent of the original cost of the canal which in a general way is estimated at one dollar to every acre.— The exceeding dryness of the summer so thoroughly abstracts all moisture from the wheat berry that to insure good flour it is necessary to moisten artificially some hours before grinding. Thus treated, the wheat makes the very best quality of flour. What will seem curious to you, the moistening is done by running the bin full of water, in which the wheat soaks eight or ten hours, just previous to the grinding. You can judge somewhat of the exceeding flintiness of the berry which requires such treatment to fit it for grinding, and you may reasonably infer that the climate is intemperately dry.

I propose to give you now the figures of one other herd of cattle, that of Mr. A. B. Daniels, who has been four years in the business. He bought, to begin with, twenty-three hundred head of cattle, cost thirty-two thousand dollars. He has sold to the amount of thirty-five thousand five hundred dollars and has now on hand cattle, estimated value, thirty-six thousand five hundred dollars. His account stands :

Sales in four years.....	\$35,500
Stock on hand.....	36,500
Total value.....	\$72,000
Deduct original investment.....	32,000
Profit in four years.....	\$40,000

Mr. Daniels' operations are in South Western Colorado, one hundred and forty miles from Denver. He says the cost of the care of his cattle does not exceed seventy-five cents per head for the whole time of keeping. In other words that sum covers all expenses of herding, and that is all the care he has to give.

He lives in Pennsylvania, and this overture is simply a little outside speculation. Such instances, with varying degrees of profit, can be cited all over the grazing district, but lest you tire of the subject, I

hasten to give you some results attained with sheep for which I am indebted to M. D. Potts, of Pueblo :

In the summer of 1869 he bought one thousand Mexican sheep for one thousand dollars. He used twenty merino bucks. In four years he sold wool to the amount of ten thousand two hundred and eighty-six dollars, and six hundred wethers for one thousand nine hundred and fifty dollars, and has now on hand three thousand seven hundred sheep, valued at nine thousand two hundred and fifty dollars. His merino bucks cost twenty dollars each, making for them four hundred dollars, and the whole account:

Sales wool in four years.....	\$10,286
Sales 600 wethers .....	1,950
Stock on hand.....	9,250
<b>Total proceeds.....</b>	<b>21,486</b>
<b>Deduct original capital.....</b>	<b>1,400</b>
<b>Profits.....</b>	<b>20,086</b>

He has a man who takes all the care of his flocks for one-half the net profits.— Shelter is provided, and some hay is fed during the month of April and a portion of May. The remainder of the year the sheep graze. I am satisfied that there is greater profit in sheep husbandry than in cattle raising, provided good care is taken of the sheep, but in this easy country men hesitate at any outlay that looks to the provision of artificial comfort for stock, and for that reason most of the graziers prefer cattle as being hardier and therefore more certain to withstand the rigor of a climate, which in certain portions of the year, tells with considerable severity on the unprotected flocks. The estimate of increase is eighty calves annually from one hundred cows, and the table of values :

1 year old.....	\$10 00
2 “ .....	20 00
3 “ .....	30 00
4 “ .....	40 00

And this is expected above all cost of raising and keeping. I am satisfied the calculation is well based. This year half a million Texas cattle will be driven into Colorado and Kansas, where they will be sold for fattening, and to establish herds for breeding, at about the following rates :

1 year old .....	\$ 7
2 “ .....	10
3 “ .....	16
4 “ .....	20
Cows .....	15

I saw in Kansas not less than one hundred thousand of these cattle feeding on the sweet grass of which the specimen sent you is a fair sample. It stands thin on the ground and never grows taller than the tuft I send you. It dries up in the fall and cures standing, with all its nutriment retained, so that cattle fatten on it all winter. The buffalo grass, of which you have also a sample, grows thick, but never more than about four inches in height.

There is some of this in Colorado, but for the most part it is found in Western Kansas.

I could give you figures relating to general farming, but there is no especial need. Wages are about twenty-five dollars per month, but no great degree of intelligence comes within that range.— There are certain and magnificent profits for him who puts mind into business, and so far the terrible uncertainties of eastern farming come not to afflict the husbandman.

#### BEAUTIFYING HOMES.

FRIDAY, Jan. 10, 1874.

The attendance was less than usual, perhaps because the subject for discussion was suggestive of the shortcoming of several members and therefore embarrassing to speech. Several members, who are usually

good talkers, remained silent during the meeting, although there was unusual pressure to bring them out. Many of the chairs were occupied by ladies, who evinced lively interest in the remarks of those members bold enough to talk of beautifying homes. Trees, flowers, gardens and other outward adornments of home, constituted the theme which inspired many beautiful thoughts, beautifully set forth. And some of the speakers, touching upon the moral beauties of well-ordered home life, betrayed emotion which did honor to their hearts.

This report cannot do justice to the eloquence which was exhibited, not in words, but in those signs which reveal the good impulses of warm hearts. All that was said was earnestly given, and deeper meaning was but half concealed. The coming spring will witness the planting of many a tree and vine and ornamental shrub, whose freshness and beauty in after years shall serve as mementoes of this meeting of plain farmers, whose most sacred treasures are their homes.

A brief communication from S. C. TABER, read by the Secretary, was the key-note of all. He explains that absence from the city until the day of the meeting prevented his receiving notice of the demand upon him to open the discussion, and proceeds:

" 'Mother' and 'Home' are two of the dearest and most beautiful words in our language, and both are so intimately connected that whatever will tend to beautify the one will tend to increase the happiness of the other. Life is short, and our opportunities for happiness are limited. We should improve and enjoy the opportunities to the fullest extent. Our homes should furnish us our greatest enjoyments. In order that they may do so they should be beautified most beautifully. Thus we shall increase our own happiness and contribute to the happiness of others. Too many of us farmers are disposed to devote our energies to the cultivation of the soil rather than to a cultivation of a taste for

the beautiful. This need not be so—this should not be so. We can, and we should render our homes beautiful in themselves and beautiful in their surroundings. What some would esteem beautiful, however, others would not. There is a glory of the moon, and a glory of the stars. The glory of the stars cannot equal the glory of the moon, and the beauty of some homes can not equal the beauty of some others. But inasmuch as the smallest star has a glory peculiar to itself, so also our smallest homes can have a beauty which *for them* cannot be surpassed.

"Our houses need not be large in order to be beautiful. There is beauty in every house where love and contentment abide, but without love beautiful palaces are by no means beautiful homes. If we would have our homes truly beautiful, we should obey the eleventh commandment, and 'love one another.' This should be no promiscuous love, but we should love our wives and our children, and no home *can be* beautiful without a wife and children.—As soon think of enjoying summer without sunshine, or winter without snow, (such as we are now suffering) as to have or enjoy a beautiful home without a wife and children. Any and all other adornments can be dispensed with better than these. But with these, and with such beauties as always cluster around the spot where they are gathered together, will be found a beautiful home. And 'be it ever so humble there's no place like home.'

"But, without going into further details, Brother Armstrong, we should all so beautify our homes while we have homes to enjoy, and our lives while we have lives to live, that when we come to 'shuffle off this mortal coil,' and to turn our toes to the roots of the grass, we shall be prepared to enter into and enjoy the beauties of that beautified home of many mansions, prepared before the foundations of the earth, whose builder and maker is God."

G. S. McCANN—There is much room to talk on this subject which Mr. Taber has

but just opened. There are a thousand ways to beautify our homes—ways that are within the reach and means of the most humble. Much, very much, can be done by planting trees, which adorn any home, and their cultivation and care serve to elevate our tastes for the beautiful. When we pass by houses so adorned, we are pleased by their beauty, and we should be thus reminded of our duty in this way to please others. I am greatly in favor of planting trees, and I would recommend to farmers and their families the planting and cultivation *by their own hands*, as a means of pleasure and happiness which cannot in such full measure be derived from the beauties created by others. Plant a tree yourself, and give it your personal care, and you must feel more interest in its growth than if the labor were done by another.—By all means set trees about your homes and along the road fences. It does not require wealth to do this, a little pleasant labor and watchful care, that is all. Time and the seasons will do the rest. The poor man can always beautify his humble home with trees, which by their freshness and beauty serve to make him more happy and become also a public pleasure. I have said it does not require wealth for this species of adornment, and I may say, also, wealth does not always make beautiful homes.—Often we pass by the homes of the rich, where the outward appearance is elegant, the house handsome, and the grounds giving proof of refined taste in their adornments, and we are led to suppose comfort abides within. Alas, it does not always. Love, contentment and kindness must have their homes within the family, or all these outward beauties fail to give the delight of which they are capable. After all, within the house, woman has most to do to secure for all the greatest happiness. Without her kindly ministrations no home can be complete, but with her delicate attention to a hundred little things, home can be blessed and happy—the “dearest place on earth.” Let one have such a spot, and

roam the world over, he cannot forget the charms left behind. Hourly his heart will return to his home, the abode of happiness, which he can no where else find; and more especially is this true if with that home there is associated the remembrance of a godly mother. Yet with all these good influences by which the very name of home is made sacred, man sometimes recklessly destroys all that is good, and makes home miserable. His blighting influence may darken the brightest spot. He has duties within the house as well as without. But let him get refinement by the cultivation of trees and flowers, and he is better fitted for the kind offices at home. He can begin very cheaply. Suppose he set out and cultivate a Siberian crab. It is beautiful in its foliage, beautiful in its bloom and beautiful in its crimson fruit. No farmer is so poor that he may not have such beauties clustered around his home, and if he has, besides, thrift and cleanliness within, the children clean and tidily clad, the smiles of contentment over all, he cannot be very unhappy. I have seen log houses where the surroundings pleased the eye and true happiness found there a home. Let it once be learned that wealth is not necessary to make home beautiful and happy, and then let all begin to do something to adorn the spots where they must stay, so will homes of beauty spring up everywhere and all be made more happy.

MR. S. M. CARR—I can hardly agree with Mr. McCann that so much of the responsibility for happy homes rests with woman. She has her duties, it is true, but man has more influence for evil. He is to provide and she to care and arrange. He must see to the surroundings, but let these all be fixed—let there be trees and drives, walks and fountains, and all that is convenient and beautiful to the eye, he, with sour looks, can effectually spoil it all.—When he comes in, if he seats himself in the library and engages himself with the paper, waiting for the bell to summon him to his meal, to which he goes with a



fault finding spirit, think you there is happiness then for him or for his family?—Now, there are hundreds of such homes with their beauty marred. Let him remember that the wife during his absence has had the care of the children and household matters; that she has been faithfully trying to minister to his comfort and may be more weary than he. It is his duty to come with pleasant words and no unselfish heart. Let him have pleasant words to give to wife and children. Take the latter into familiar conversation, kindly asking and receiving questions. If he is too selfish to do this, he drives to despair. He should get down to the little wants and pleasures of his little ones, leaving what may be his burdens out of the home which it is his duty to make happy. He should tax his mind to arrange pleasures for those whose happiness depends upon him. It is dreadful to live so that children fear to approach. The sunlight of his countenance should beam upon his home as the light of heaven falls upon earth, warming it into beauty and loveliness. If he chooses to live in the other way, he chooses to sink his manhood into brutishness and is unworthy of the pleasures which a well-ordered home can give. A log house with cheerful faces and kindly words is far preferable. It may be pleasant and even beautiful.

In response to calls made by the ladies, Mr. D. E. HOWELL said:—I have been thinking my door yard is not as beautiful as I have often been invited to make it.—Facts and sentiments have been well set forth, and meet my cordial approval. It is truly said no home is beautiful without love, no matter how costly its fittings. It is pleasant, when one after absence returns to his home and is met by his children gleefully exclaiming, "Papa has come." It delights him to be the object of such affection. But suppose he is tired with his labors and finds this cheerful greeting followed by a call for stovewood! Will

he not achieve a victory over himself if he can repress a scowl and go cheerfully to the added task? For myself, I am always glad to go home and glad to stay there.—I wish I were there to night. There is truth in the old couplet:

"Man wants but little here below,  
Nor wants that little long."

What is needed to make home pleasant is unity of feeling and active with earnest desire to please. People overlook the humble requirement. They soar high and incline, too, to spread out. They measure beauty by height between floors. They build big houses with lofty ceilings, and really think they have "gone and done it," as if happiness can be commanded in such ways. It is all a mistake. Show and glitter cannot bring happiness. I do not condemn expenditures of great sums for houses, if they can be afforded—good comes from money so used. What I mean to say is, that great houses are by no means essential to happiness. Modest houses, decorated with taste and good judgement, are quite compatible with the highest degree of home enjoyment, while misery always comes with vain efforts to ape the grand or to outshow our neighbors.

MR. W. S. CARR—So far in this discussion I have heard nothing about the older children—the nearly grown up young men and women. May not home be made so pleasant that they shall not feel obliged to go out to seek pleasure? I am satisfied that our children go out too soon, and that if parents provide better for their happiness they may be restrained from many evil ways. In many homes the parental notions of propriety are so strict and severe that the young are unduly repressed.

Their amusements are often boisterous and may be so, and yet harmless. It is quite natural that they should be noisy, and even perhaps rude; but they may be guided by sympathies rather than by severities. It often happens that the few

books which have served the needs of the parents are thought to be sufficient for the young men and women, while they think, and justly, too, that more are needed.—They hear of newer works, and desire to read such. Let them be provided. The world is advancing—the old is not always the best. Aid them to the fullest extent in their endeavors to seek knowledge. Be assured if the parents are so engrossed in the pursuit of wealth that they cannot heed the reasonable demands of children, evil will come. Cultivate in them a taste for pure literature and provide the means for its enjoyment. Strive always to make home the dearest spot on earth, so that when they must go abroad their thoughts will turn to the good old home with pleasure. There is another thing to consider.—Home to be beautiful must be permanent. Our American homes are too shifting—attachments grow. Home to be a reality must be permanent. The trees and shrubs thus become objects of affection. We shall find that our efforts to make home beautiful will at last enlist the aid of our children as their growing attachments fasten upon objects with which they are long familiar.

Mr. JAMES MCCANN—I desire to add confirmation to the idea that wealth is not necessary to produce the finest adornments of home. Trees and flowers and neat surroundings are easy to procure—within the reach of all. It is true, enjoyments depend upon disposition. Outward appearance is not all. But the outward adornments are easy. It needs only the disposition to ensure their provision. A little time, which can easily be spared—a little care, which can easily be given.

MR. FLETCHER CARR—Upon mothers depends the education of the daughters, and in my judgment they should be so brought up that they would make good wives for farmers, and not be led to suppose their chief happiness depends upon unions with city clerks. The center-table should be

provided with something better than yellow covered books. Mr. Carr proceeded to delineate character, and drew forcible contrasts between proper management and the fashionable follies of some homes.

#### AGRICULTURAL NEWSPAPERS.

SATURDAY, January 17, 1874.

According to previous announcement agricultural newspapers were discussed—it may be added—with considerable freedom. In these times of independent thought farmers profess the ability to define their own wants. And in some instances they have made vigorous moves toward the attainment of the desired benefits. They have brought the question of cheap transportation to the front, and given it such prominence that the entire country is interested in its consideration.

The agency through which these matters are reached is the newspaper, and latterly in these reforms the agricultural newspaper has had its part. It will be seen that the Club has given bold expression to its ideas about the duties of these papers. A fine attendance applauded the sentiments uttered.

Mr. W. S. Carr was called to the opening and read the following paper:

Intelligence has done for the farmer within fifty years what toil and patient labor had failed to do in the ages past; it has lifted him from a condition little better than serfdom; it has brought him profits from his labor, whereas before it was a struggle for life; socially it has made him the equal of men of any other calling; his awakening intelligence has brought the world to see his needs and to fill the demands. Railroads, canals and telegraph lines have been laid out with reference to his uses; the markets of the world are brought to his very door. The inventive genius of the world is taxed to provide for him the implements his intelligence demands. Educated in the principles of economy, he is everywhere regarded as

the enemy of corruption and fraud, and there is no office under the government to which he may not aspire. To what does he owe this improvement in his condition? Clearly to his increased intelligence, and, if so, a growing intelligence will be his best surety for the future. Among the means of information the newspaper stands preëminent. At an average cost of five cents it contains more matter and information than a bound volume costing two dollars; hence it becomes the most available means of information. Agricultural newspapers, as their name implies, are supposed to be for and devoted to the interest of the farmer. Their editors should be practical farmers, the better to guard against error and the more able to sympathize with their readers; the paper should be weekly at least, open to communication from subscribers—in fact relying on them for much of its matter. It should give full market reports and advices thereon, and give the fullest assurance that they are not in the interest of speculators. Political only so far as to fairly state the political situation and status of all parties. Politics do not usually add to a farmer's intelligence, they rather tend to make a fool of him. It should be fearless in its exposure of frauds and corruption in high places; of dishonest seedsmen and nurserymen; of humbug patents, with a name but no merit. Relying on the farmer for its support, it should always be true to his interests. Advertisements in it should be limited, and the fact of their being admitted should be a sufficient guarantee of the responsibility of the parties advertising. An advertisement many times is of more practical benefit to the farmer than the rest of the entire paper. It should be a family paper containing much of real interest to every member of the family; in the story department, careful to educate the children to a love of home and the vocation unto which they were born. It should stand at the outposts of scientific discoveries in this chosen field of ours, and by experiment and theory endeavor to establish facts. Above all it should have a moral tone, not conservative but setting forth the accept-

ed doctrines of our Christianity in purity and with power, "for what shall a man profit if he gain the whole world and lose his own soul?"

Such a paper I recommend as being of great value to us all; the common newspaper we stand in great need of, but the agricultural newspaper is a necessity; as well might a surgeon go forth with a carpenter's kit as for a farmer to expect success through a common newspaper alone. As we aim to be practical, and as some have expected I would name a paper suited to our uses, I do name the *Rural New Yorker* as a paper containing all the points that I have set forth. Other papers may be as good, but with them I have not so thorough an acquaintance.

MR. J. S. VANDUZER.—In closing his remarks Mr. Carr opens out a point upon which there may be much disagreement. He recommends a particular paper while there are members here who take others and some members several others, which they regard as better suited to educate the public mind or to serve their personal needs. I am sure I should differ with his preference. It is a fact that all who have studied agricultural papers, have found much that is of doubtful utility. The useful must be gleaned out and the impractical rejected. Very many agricultural writers are theoretical, and some papers which rank as agricultural are trashy in their character. Their is so much space to be filled, and matter goes in which is worse than doubtful in its tendency. If we accept all, we shall be led astray. Since the enlargement of the paper of which our friend speaks so highly, it is less reliable than before because of the necessity for filling the great space which is given more to theorists, and to weak writers who serve up trash not of an agricultural character.

As far as my observation and experience go, the *Country Gentleman* is much better for the thoughtful farmer, and taking the liberty to recommend, as Mr. Carr has, I say to those who take a single agricultural paper, let that be the *Country Gentleman*. It does not deal in mere theories, and if articles are admitted which, by their extravagance are

likely to mislead, the editors are quite sure to accompany them with words of caution. A few weeks ago an instance occurred to illustrate this careful disposition to save readers from imposition. An article on the profits of dairying set forth figures and alleged facts by which it was made to appear that the business is immensely remunerative, and to the unsophisticated all had the appearance of truth itself. There were so many quarts of milk as the daily yield of a cow, and the average carried along through the year, with estimates of butter and cheese to be made from all, but the trouble was the premises were wrong. There is no such yield, no such average, and of course no such result. Now the editors obviated the pernicious tendency of the article, by printing with it a note calling attention to the false bases of estimates. Such care is commendable and saves in this case perhaps many disastrous failures. Our essayist has also said that the paper should be weekly. That is well; but I have to add that there is no paper which gives me more pleasure than I have in perusing the *American Agriculturist*, and it is published monthly. Much of its excellence is due to that veteran writer, Joseph Harris, who labors in the cause with the zeal of an enthusiast and the honesty that inspires confidence. We shall all agree that great good is derived from reading agricultural papers, but I would urge farmers not to depend upon them alone for their teaching. Let farmers think for themselves. Perhaps the best use of the papers is to stimulate thought.

There is no doubt in my mind that we need here an agricultural paper, that could have a local interest, and I believe it could be well sustained. Or if the venture be too great, we do at least need an agricultural department in the weeklies already established. Do not suppose I mean a page marked "Agricultural," to tickle the fancy of the farmer who is asked to subscribe. I mean more. There is an imperative demand for agricultural matter in the weeklies that go into general circulation. It seems to me that our papers should make a department devoted to our interests, and that there

should be employed thereon talent which should be properly paid and required to prepare in every issue something calculated to interest and to teach farmers. I am not speaking of these reports. We read them and are interested, but we want other original matter, and a steady effort to provide it. I have just returned from the annual meeting of the American Dairymen's Association at Utica, where I was greatly pleased by the full reports of the proceedings in the columns of the *Utica Herald* and *Utica Observer*. It is not too much to say that the great success of the dairy business in Herkimer and other counties, now famous for their products, is due to the well directed efforts of the *Herald*. It started the board of trade which brings the producer and consumer together, and saves to the former the profits before reaped by the middleman. Purchasers from across the ocean wait upon the sellers there. Now all this is of great importance to the manufacturers of cheese and butter. The *Herald* is not exclusively agricultural, but the deep interest it takes in our affairs, and the energy it displays in providing matter of interest to farmers have given it great favor among us all. Agricultural matter is more generally read than any other. Even the reports of our proceedings are sought after away from here. I met in Utica the secretary of an institution in a western county who had long been an interested reader of our reports, and who asked me to name some members of our Club upon whom his society might call for agricultural addresses and essays.

MR. D. E. HOWELL—In regard to the *Rural New Yorker*, the last speaker has expressed my views. For many years I was a subscriber, but I began to think it decreased in interest and dropped it. Of late I do not know much about it, but it is quite certain it fails to please me as it used to. I have been a reader of the *Practical Farmer* and regard it as sound and good, but when it gets along it is always overdue. If I were to express my sentiments about the *Rural* I should say that it feeds us on very coarse fodder, like sowed corn for our cattle. There are too many

loose statements instead of facts. If a young inquirer after knowledge should be guided by such teachings he would be lead astray. This criticism will apply to much agricultural writing. Figures which are wild are set down as the true basis of an estimate and they lead into trouble. There must be deductions for drouth, something knocked off for worms, and allowances for evil effects from other causes quite beyond the farmer's power to regulate. I don't believe in the inflammatory and elongated articles about the riches of the butter business and of grain raising. The allowances must be made.

After all the agricultural papers have done a great deal of good and have power for greater good. They have helped to make farming pleasant and profitable. They have done much to educate the young, and to adorn and beautify our homes. They go out over a wide field, hence the greater importance of their good teaching.

There is one matter in which even the *Rural* has humbugged us amazingly—in the character of its advertisements—while it has professed to admit nothing of a deceptive character, the allurements of money have opened its columns to much that is really pernicious. Under this plea of honesty there is more capability of evil in swindling advertisements. I would not so much object to their admission if the paper needs the money and would withhold the implied endorsement, which is given with their published determination to admit only such as are worthy of confidence.

This feature alone is capable of working infinite harm and great losses of money.

Mr. JAMES F. BEECHER—I read the *Rural New Yorker*, and I must object to these criticisms. It is a good paper, and its labors are in the interest of agriculture. There is no reason why we should not have statements of great successes with the figures that seem to look extravagant to some of our poor farmers. Here is a man who speaks disparagingly of corn fodder, and likens the articles of

the *Rural* to such "coarse fodder," as he calls it, because he does not know how to raise it or cure it or use it. Other members, in previous discussions, have talked without knowledge of this valuable crop. (Mr. Beecher entered with warmth into the defense of the crop so much aspersed, and recommended farmers to learn of the proper management by reading the *Rural New Yorker*.)

GEORGE S. McCANN—There is much improvement in agricultural papers in the last few years, and of this we ought to be proud; but in our own papers there is negligence in a certain department. I allude to the market reports. I object to the way these are handled by the *ADVERTISER* and by the *Gazette*. Look at either of them to find the market value of any product and you will not learn much. You are anxious about any kind of grain, and on looking at the market reports you find this information: "The market has declined two cents since our last report." Now you go back a week and you find nothing. Go another week and there is notice of another two cents decline or advance and you have learned nothing. Now let them give us full detailed statements of all that happens in the market with statements of real transactions. Let them publish more matter which directly interests the farmer. Let them tell us the history of oats, and of wheat, and where, and when tobacco originated.

(The speaker was promptly referred to Mr. Billings.)

The *Horseheads Journal* in these matters excels them both. If the *Gazette* would spend the time and money upon agricultural matter that it gives to its *Illustrated Monthly Supplement*, I have no doubt it would attract ten new subscribers for every one it gets by that bait. The *New York Weekly Tribune* was one of the first to enter the field here indicated, and it obtained a great increase of circulation because it met a public want. And I say now, whoever reads the *Tribune* attentively and thoughtfully will become an educated man. I do not refer to its politics—it is a paper devoted to the interests of mankind. It treats religion, sci-

ence, commerce and art, and so elevates all its readers in knowledge.

Mr. VAN DUZER—Let me add my endorsement to all he has said of the *Tribune*. It has done and is now doing a great work. Among the dairymen assembled at Utica I found the *Tribune* and the *Times* almost without exception the two papers accepted as authority in the price of dairy products and the transactions with customers based on their quotations. Writers in the agricultural department of the *Tribune* are employed from that class known as practical farmers, who know whereof they write. Such a man is L. B. Arnold. Utterly simple in his manners, conscientious to the last degree, thoughtful and earnest in all that he does. A devotee of science, he entered upon the study of chemistry almost in his old age, because such knowledge was needed to elucidate knotty points in his profession. I was pleased in a recent interview to learn that he is likely to enter upon a permanent engagement as an agricultural writer.

Mr. JAMES McCANN—Agricultural writings are good for all farmers, but he who depends upon them alone to guide his practice will be but a poor farmer.

Mr. S. M. CARR defended the *Rural New Yorker* at length and advocated the exercise of more thought in farming.

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#### REVIEWS.

SATURDAY, Jan. 24th, 1874.

Vice President McCANN called the meeting to order promptly at the hour at which time there was a very fine attendance. There had already appeared the premonitory symptoms of a storm within the hall, while there was a shrieking gale without. But the ominous mutterings were harmless. A tilt with the newspapers, no doubt, was thought of, because it would be a delightful way to gratify the pugnacity of some members. The last meeting had offered the gage of battle, at a single point, but while this was well

fortified and reinforced, this meeting showed no desire to precipitate hostilities. The newspapers will still exist, and Club members will buy and read them, except in times of political excitement, when farmers having not the slightest interest in politics, can not of course be expected to care for what the papers say. The fact is, farmers are just ready for that blessed state when the lion and the lamb shall lie down together, and until that period they will see to it, that the lamb shall hurt no one—not even a defenceless newspaper.

Mr. JAMES F. BEECHER—There have been many subjects discussed here, and no doubt some of us have some good reason to change opinions. That is necessary if we advance. When we find ourselves holding to error we must be always ready to cast loose. There are men who have condemned the raising of pumpkins, and I suppose continue that error. Practice and observation have taught me that pumpkins are good to fatten cattle, good for milch cows to increase and improve the butter, imparting a fine yellow color, and good for all farm stock that will feed on them. Much has been said here of root crops, and not all in favor. Certainly turnips, beets and carrots are all excellent to feed cattle. They improve the health, make growth and impart vigor. But here, as we are situated, in a market always calling for these crops at a good price, I cannot say it is always profitable to feed them. It is doubtful if the value of turnips for feeding cattle is ever more than twenty cents a bushel, and forty cents is a common price paid. Better let them go and put the money in corn meal or wheat shorts, or buckwheat bran, for any of these at the cost will be more profitable to feed.

Corn fodder has rather fallen into disrepute in this Club. I must insist it is because of lack of knowledge. With an experience in raising and feeding it nearly fifty years I feel that I can not be mistaken in my estimate of its value. There are no such difficulties in its management as we hear narrated. My own way is to sow in drills using Southern seed because sweeter—rows far enough apart to permit a horse to pass—cul-

tivate thoroughly until the crop has complete possession of the ground, harvest before frost, or about the time of cutting field planted corn. Set up in stooks of moderate size, and bind only the tops, and draw in when cured, which, with good weather may be in a week. In this way there is no trouble nor loss. I have just fed out the last of mine sweet, and fresh as at the first. I think a cause of much trouble is that the stooks are often tightly bound about the middle by which the circulation is impeded and the inner portion is not cured when the stalks go to the barn. As to the seed I think most farmers use too much, many five or six bushels to the acre. Half that amount is plenty enough. If our friend Van Duzer will try the plan I have drawn, he will no longer mislead the public by declaring sowed corn worthless.

Something has been said about beautifying homes—all in too narrow a sense—I call my farm my home, every field and tree is part and parcel of the home I would beautify. Even the growing crops, the playful lambs skipping in their pastures, all are of my home. I would never relax effort to improve all these, because such efforts add always to the beauty of home. I would say something of the papers but they were fully discussed last week. As to the market reports we can help ourselves to what information there is to be had, and not get it two weeks behind the times. The wonder to me is that the market reports are so good, considering the difficulties.

Mr. S. M. CARR—Four years these discussions have been maintained, and there is quite too much to review. I remember well the first discussion, with its surroundings. We talked of timber—the best time to cut; and of fence posts—how to set to promote durability, whether top or butt downward. I well remember on that occasion when these ten men convened for a modest talk, one of them, in retiring after all had been said, declared himself well repaid for all his cost and trouble by the accession of ideas. In subsequent meetings many things have transpired to interest us all, and no doubt

instruction has come to many. I shall not attempt even to enumerate the topics discussed, much less to review them all. Only here and there shall I touch some salient point, and then only for the purpose of promoting thought. In 1871 we had before us the "rotation of crops," and our secretary read an original essay full of interest to me, but if I may use the expression, he stepped on the toes of many members. He asked what would be thought of a man who should draw upon his banker until his deposits were gone and credit exhausted, and then, when his drafts should be dishonored, he should berate the banker for his failure to extend unmerited favors. And to such a man he likened him who exhausts the fertility of his fields by continual cropping without the proper deposits and then grumbles about the hardships of farming. He advocated rotation as a means of maintaining fertility, and our friend Geo. McCann insisted that three crops of wheat might be raised in succession just as well as the three successive crops, corn, oats and wheat. The proper uses of barn yard manure have made the theme for a great deal of talk. We have all agreed upon its great value for land and we have all recognized the fact that we cannot get enough of it to maintain fertility. And so has he arisen question, what shall we use instead? Our Secretary said clover, and most of us agree; but here is Mr. Beecher, who said timothy would do just as well. Of course we shall not all agree in all matters, but to him who thinks, and from whose eyes the scales of prejudice have fallen, through these discussions truth shall be made to appear. Extravagant statements are sometimes made and possibly allowed to pass, but it is our habit to offer combat at once whenever there appears a monstrous form of wrong. Something has been said in former meetings about educating our children and the best ways of interesting them in our business. I remember one prominent member of this club let the remark drop, that a good common school education was enough for any farmer's children. Was he in earnest? I would give my children all the education my means

would permit and their capacity allow, even to passing them through the best colleges, and any other courses, which would add to the sum of their knowledge. I would surround their home and minds with every object of interest and of beauty. I would in every way provide the means of satisfying their inquiring minds.

We talked of beautifying homes at a recent meeting, and I say now, whoever, having a home, shall read that discussion and fail to add some beauty to his home is not worthy to be of us. That is indeed a happy subject. There is none so poor that his home cannot have some new beauty. Let all remember the more love there is within the home, the more beauty there will be, and with these there comes the reward which attends well-doing—happiness. Our last meeting more unfortunate than ever before assumed to discuss agricultural papers and strayed to papers not agricultural. Of course we should be particular in what we say, not as precise as in forms of law, but at least particular to treat all interests fairly. One of our city papers has seen fit to publish a pointed article relating to that discussion and incidentally to this Club. I except to the tenor of the article. There is blame with us no doubt, and it is certain there is blame with the papers, but let it be understood *we do not attack* our city papers. No one has said aught against the *Gazette* Supplement, and yet it is represented in the article, that Mr. McCann did condemn it.—It is true the market reports were criticized. It may be we do not all understand the difficulties in the way of the reporter who collects the information. Take the matter home: I found last season summer butter quoted twenty-five cents, and for some time sold mine at that price, because on inquiry I found that was the regular rate, but after a time a dealer who wanted it said he would give me thirty cents, but I must say nothing. Well, I took the thirty and said nothing. How are the papers to get hold of such transactions? And yet they are going on all the time in hay and grain and every thing else that goes to market. What we want is a Board of Trade to

give authority to markets. Perhaps the transactions are not large enough but we may be assured such as they are they will continue to be irregular until we have established such a board.

And now there is one other matter in the *Gazette* article against which I must enter an emphatic protest. It is said that the success of this institution has depended on and does now depend on W. A. Armstrong. It is absurd. We know better. Must we admit that we are so low that but one of us all can perform his labor? I indignantly spurn the idea. There are many who could take his place and do his work. And then if we are not reported at all, are we to die out? Certainly not. We should continue to exist. I admit with a restricted field of usefulness, but with us no lack of interest. We cheerfully give credit to the papers for all they have done for us but let them not forget that there is an obligation on both sides. I know of several subscribers, who take the city papers solely on account of the reports of these discussions, and I know too, that we buy extra copies to send to our friends abroad, all of which must be of some benefit to the publishers. Let us be fair on both sides. I admit the cheapest purchase I make is the weekly newspaper, with its narration of events, chapters of accidents, market reports and a hundred other things, just what my family and I happen to want, at a cost of less than five cents. I cannot estimate their value too highly. It is perfectly proper for us who are farmers to wish these same papers might give us more agricultural matter, but that would not suit all, and we do not complain. We ask only, that what they do toward us be fair, and we expect also to be fair. If they cease to use our reports we shall not cease to exist, and we shall prove to ourselves as well as to others, that we are under no especial obligation to any reporter, and that the *Gazette* errs egregiously, when it says Mr. Armstrong is so necessary to our existence, or if it supposes there are not others with us who could do his work as well.

G. S. McCANN—This club I call my home.



Ever since it was formed I have taken a great interest in it, and I have learned much through it. I think I have learned more from small farmers because their experience centres more in single things. I have been a thousand times interested in these discussions, and believe now there is not one in ten of our farmers who may not learn some useful lesson here—not that we claim to be wiser than others, but here is the place where our experiences are told and views compared. We talk with freedom, as we should. We do not always agree, but we may disagree in terms not offensive. I do not agree with what the *Gazette* said of me this week. I had spoken freely of the paper, and can substantiate what I said, but I will not charge upon it as its editor did upon me—falsehood. I have been looking over the files, and I find abundant proof of the fault I named—especially in the year 1871 in quotation of meat, dressed hogs and barley—I have not looked through the late years. It is enough to know its own columns bear out the truth of my statements. Now in regard to the “Illustrious Monthly Supplement” (I must be precise—that is the title by which the *Gazette* designates it in our last report), I never meant to say anything to its detriment. I never have said such a word, and I am quite ready to say now what I believe is true, that the “Supplement” alone is quite worth the cost of the paper—two dollars a year. I regard the “Supplement” as worth more than the *Gazette* itself, and yet in the article assailing me, the editor says I would take this “source of pleasure” from homes. Oh, no! I don’t want the “Supplement” stopped, nor do I want any home deprived of the pleasure it gives.

There is one other matter—an allusion to my experience, when the editor, elegant as usual, speaks of “slopping over.” The phrase is new to me, but I think I know what it means, and may properly style it an offensive slur.

Mr. FLETCHER CARR.—In looking back over the past few years we find great improvement in journalism. Not long ago none of the weekly newspapers except a few of the

greatest in the great cities gave any space or attention to agricultural matter—no local paper had any notice of our business. Note now the change. Every town, village and hamlet has its newspaper giving more or less attention to farm matters, furnishing well prepared reports of Club meetings, Granges, or giving well written articles by farmers who have studied to some purpose. All this shows that agriculture is making rapid strides in improvement and that it is already raised to a higher plane.

The difficulties of making complete and accurate market reports are great as any of us may learn if we go into the market to enquire prices. I think if the Elmira Farmers’ Club would devise any plan to add to the completeness of the statements, the city papers would be very glad to adopt the improvement. But there is one thing of which we may justly complain—the disposition to fill their columns with blood-curdling details of horrid crimes. Why not shorten their hideous proportions? I concede the right to chronicle crime, but spare us the disgusting details and save this space for matter of real utility. I am not referring to our papers alone. All over the country there is this disposition to hunt the sensational and the revolting.

Mr. JAMES McCANN.—With others here I say there is benefit in these discussions. I too, remember well the first one, and I remember that it was much talked of for six months afterward and that it excited thought. So, too, another discussion of the ways of seeding to grass, wherein I recommended crops giving the least shade, and President Hoffman said, sow no other crop with grass seed. The idea was new, but I have become almost a convert. I have sowed grass seed in that way and I have seen it done successfully by others. So have I been benefitted by the ideas here expressed about trimming trees—the proper time and manner, and how to heal the wounds.

The last discussion, running on newspapers, seems to have excited some feeling, but I think there is nobody much hurt. Readers

will look to see what is said on the matter this week and may perhaps be amused—I hope not hurt.

There is no doubt this Club is known favorably or otherwise, over a wide extent of country, and the newspapers have been the agency through which our doings are disseminated. I was in Albany this week with President Hoffman and had the pleasure of seeing him congratulated on every hand because of his position with us. And what was surprising, he was so well known and so often pointed out as the President of the Elmira Farmers' Club.

Mr. CARR reiterated his ideas about reporting, and declared he often arose with trembling because he knew that what he should say would be put in the papers. He believed many were deterred from speaking by the fear of appearing in print.

Loud call made for "Chapman," aroused Dave Billings from a comfortable doze, and understanding the word "Chaplain," he sprang to his feet with a profusion of apologies for not before appearing. But even now he declared he could not address the chair on the question before the house, because he had given all the energies of his mind to the illustration of the forthcoming volume of discussions, and was never more troubled than at that moment, by the effort to devise cuts to represent the grotesque attitudes of speakers who had preceded him. Certain animal profiles would do in some cases, and the bird of wisdom should stare from the opposite page on the reported remarks of some sapient members, and at last subsiding.

Mr. S. A. CHAPMAN, responded to the call: Since the formation of this Club I have never ceased to have a deep interest in all its affairs. I know I have learned much. I know that I am prepared to be a better farmer through the means employed here. These meetings have given me much pleasure as well as profit, and I have been benefitted also by a better acquaintance with my neighbors. As to the newspapers which have come up for remarks, I can say that they are welcome visitors to my house for about nine months of the year. I read with

interest both the *ADVERTISER* and the *Gazette* and my family have a like interest, but in the other three months we can spare them as well as not—that is during the time of a political campaign when they will both tell untruths.

Allusion has been made to the hesitation shown by some members, who are well able to speak. I confess to that feeling myself and must say that at the first, I could hardly overcome the reluctance caused by the fear that something might get into print to make me feel unpleasant. But that has worn off. I have learned that I will be taken care of, and for such care I am under a weight of obligation to the reporter.

Mr. BEECHER.—I have read our city papers' for the last nineteen years and I regard the *ADVERTISER* and the *Gazette* as both valuable. Both are much improved within the past few years. It is well to take both because you thus get more full local news and other matters of interest. It has just been said that both are untruthful during political campaigns. Now, really, there has been very great improvement in their tone within three years past. They are more truthful in politics, and in fact there is no particular disagreement between the papers so far as politics are concerned.

[Dave suggests here the image of a dove.]

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#### SELECTION OF SEEDS.

SATURDAY, Jan. 31, 1874.

The fine moonlit evening and the interest in the subject brought out a full attendance, an unusual proportion of which came with something to say. The first matter was an inquiry from a Big Flats farmer, how to get rid of scab in his sheep, to which Mr. D. E. Howell said: He will find it very difficult in winter, but in mild weather a strong decoction of tobacco thoroughly applied will effect a cure.

Mr. EDWARD WARD—If he has but a few, let him kill them—it is the best way. If he undertakes to cure them by a tobacco wash

in this weather, he must shear them, and that will kill them without the wash.

An inquiry from a lady about washing with hard water unfortunately had been long overlooked, but will be submitted to farmers' wives familiar with the processes, and answered at the next meeting.

President HOFFMAN having been absent at the last meeting was, according to the custom, assigned to the opening of the subject—selection of seeds—and said :

The proper selection of seeds I look upon as a subject of the greatest importance to the farmer. By due attention to this matter he can change the entire character of a crop within a few years. He can make vast changes in the line of improvement. The wonderful possibilities are well illustrated in the flowering annuals, which by a few years of careful selection, have developed plants of such different character and bloom as to look like new species. With farm seeds there is none more readily improved by selection than corn. Within ten years merely by selection, the character of the ears may be so changed as to form a distinct variety. This is more easy than with oats, or wheat because the ear having more size, extra quality is more easily discerned, but with sufficient pains, I do not doubt as great changes may be wrought in the smaller grains.

The president exhibited two ears of dent corn, remarkable for their size and the perfect development of the grains, and said:—These ears I took out of the crib in the dark, and regard them as a fair sample of the lot, and yet this corn comes by selection from the small white flint corn without dent, raised on the same farm since 1836 or 1837, with the product of a single ear to establish the dent. Many years ago an ear was brought from Ohio and planted in the garden, and the product planted on one side of the field adjoining the flint the following year, and with this exception all the seed has been raised on the place since the date named. It was desired to produce the dented corn, and by selection this was accomplished to such a degree as to make many of the ears too light, and that again corrected by selection, without change of seed. I do

not say that changes so noticeable can be produced in all our crops, but this principle illustrated in the corn can be profitably worked in all our seeds.

I met recently a gentleman from St. Lawrence county, largely engaged in the culture of beans. He expects to plant next season one hundred and twenty-five acres, and when I saw him he had the ground nearly plowed. Now, for all that planting, he told me he should have the seed selected three times—twice by careful men, and the last time he should do it himself or entrust it to some man especially trustworthy. And after all this care he intends to select from the whole crop. He suggested that it is not well to look for the largest seeds, whether of corn, or beans, or potatoes. In all, he regards the medium in size better. Said he, "I would not breed from monstrosities; a large horse, overgrown, is not as good as the average in size. So with the potato and so with the man." Which I thought a modest conclusion for him, for he must measure full six and a half feet in height. The principle is, medium size seeds are likely to have more perfect development and greater vitality. The corn I have shown you is increased in size of kernel one-half over the original white flint, but that had a cob as long as these, or even longer. We have shelled the tips and butts from the ears and used the rest for seed, with the idea that the rejected kernels were imperfect. The main point is to get seed as nearly perfect as possible in all the requirements, and so continue to select. I believe whoever sows ten acres or five acres of wheat will be well paid if he will take down his sheaves in the winter, and cull from them the best heads for all his seed. It would be well if he could have this done at the harvest, but there is too much hurry. Such selection should be made at least every second year, and if the labor should seem too great, at least enough could be carefully selected to sow for seed, thus using the product of the selection.

I believe, too, it is better to raise our own seeds than to depend upon professioned growers. Of course, we need change from

different localities in some of the crops.—Oats seem to do better on our low lands when the seed is brought from the up land, and the reverse is also advantageous. Still, care must be taken in changing seed produced in other localities. This corn would not do to take North where the season is shorter than here, but if I were going to plant in Virginia, I would use it. We get heavy oats from Vermont, or some other northern place, and they grow lighter with us. I think mainly because of our careless culture. I believe if we should sow only the best kernels we could keep the quality up. It would be well to try this selection with oats by casting seed over the floor, the heaviest going the farthest, or by an arrangement of the sieves in the fanning mill to get the heaviest and use them for seed.

Now, in regard to garden seeds, many of us are troubled because those we buy will not grow. I believe the real secret, in very many instances is, their vitality is lost by age. Seedsmen, I believe, gather up the unsold of one year and mix with the new seed for the next year's sales, and there are many kinds of seeds, that when old, will not germinate. Some lose vitality after one year; some after two, while others retain it indefinitely. Especially those kinds which are worthless when old, should be produced at home and careful selections constantly made to improve quality. Get as near as you can to the standard you have fixed, and raise such from the specimens selected. If for instance you have a desire to produce cabbage of a given form and quality, find that which approaches the nearest, and from that get your seed and the heads grown from that seed, some of them at least will come nearer your standard. From them raise seed again and so continue, and you will establish just the variety you seek. I confess I have not been successful in producing good cabbage seed, but it is because I have not learned how.

Mr. JAMES McCANN—Take good sound heads in the spring and set out just as they were when pulled in the fall. Now when the seed sprouts start, one will grow right through the middle of the head, from that

save the seed. Break off all the others. The late Mr. Horning, gardener, practiced this method and I used to buy plants of him, always more vigorous than any obtained elsewhere, and of late I have attended to the raising of such for myself and such seed always came up.

President HOFFMAN—It is notorious that many seedsmen produce seed from very inferior plants and put such seed on the market. The small, ill-formed beets and carrots, small potatoes, and other produce rejected in the market, but having the power to produce seed are set out by firms and we buy the seed. Can we expect with such a start to come out with the best products?

JAMES McCANN.—I find my peas deteriorate if I undertake to use the seed I raise. It is better to send every year to Canada for the seeds if you would have early peas.

Mr. JOHN BRIDGMAN—A great deal of the timothy seed that comes into our market is skinned or hulled and I believe it will not grow as well as sound whole seeds. I am particular in buying to get if possible that which is threshed by the flail. It is quite a serious matter, to be cheated out of the grass seeding when your land is ready, and I take much pains to get seed which is sure to grow. On one occasion I took home from a dealer a sample of the pulled timothy seed, and made every effort to sprout it in the house but could not, and I say therefore it is not good. I believe it will not grow any more than will hulled buckwheat.

Mr. EDWARD WARD—If you take a very ripe head of timothy and shell it in your hand carefully, you will find this same skinless condition which I attribute to over-ripeness. I cannot say such seed will grow.

Mr. D. E. HOWELL—I bought once several bushels of old timothy seed and sowed it but it did not grow. The fault I thought was in the age.

Mr. J. McCANN—How old must it be to lose vitality?

Mr. WILKES JENKINS—After ten or fifteen

years kept in manure it will grow, as I can vouch from having seen it.

Mr. McCANN—On my wheat last fall I sowed timothy seed cut three years before, and it came up well.

President HOFFMAN—There is no doubt that old seeds require a longer time to germinate. Wheat for instance a year old sowed by the side of new seed will be several days later in coming up. I believe any seed is better if not thoroughly ripe. Certainly it is quicker to grow and the plants seem to have more vigor.

Mr. GEO. CONGDON—Is there any seed quite as good to grow, and as likely to produce a good crop, after it is more than a year old?

President HOFFMAN—No, I believe not.

Mr. BILLINGS—It is claimed by gardeners that cabbage seed improves by age within certain limits—that the heads produced from old seed are firmer and in other respects better.

Mr. CONGDON—In malting barley, I have noticed that old requires more time. We sometimes get a lot in which there is a mixture of old, which I suppose farmers put in through ignorance, but we never fail to find it in the malting. Barley a year old will grow, but it will take three days longer than the new to start the spear and root, so of course they cannot be malted together. Last year I malted fifteen hundred bushels of old barley, and after that experience I say now I would not undertake to do it again and to dispose of the malt if the grain were given to me. I can't get the quality—it looks good but it won't yield. Honey is the only thing that can take the place of barley malt, but it will not keep well.

I have seen old barley sowed, but it did not come evenly like new seed, and barley to be excellent must be even and ripen together. Five years ago I bought of O. H. Fitch a lot of barley that weighed but forty-one pounds to the bushel, and I let it go for seed to be sown on Caton Hills. The farmers who took it were influenced by its being

the cleanest lot I had. I was afraid it would not do well, but in the fall those men brought me the crop raised from that seed, and I never saw prettier barley. It weighed plump forty-eight pounds and was without fault.

Mr. BRIDGMAN—I bought oats on the hill two years ago for seed, and my crop raised from them was lighter in weight than the seed.

President HOFFMAN—Were the oats heavier than if raised from your own seed?

Mr. BRIDGMAN—They were, but we cannot on our flat land keep up the character of oats raised on the hills.

Mr. J. S. HOFFMAN—And we cannot get as good barley on these pine plains as on the hills.

President HOFFMAN—We all know that these flats will not produce as good barley, but will it not always be better to bring seed from the hills, thereby insuring better grain than if the seed were grown on the flats! And may it not be better also for the hill farmers to take their seed from the flats? With corn this would not do, because frost would interfere with the change. So with Mr. McCann's early peas. He goes to Canada where there is a shorter season, and he finds peas acclimated and adapted to the curtailed season—he brings them here, and for a single season they preserve something of their acquired character, but they soon begin to adapt themselves to our season, and he therefore finds it necessary to get new seed.

Now if he were to go to Norfolk and get peas which are called early there, he would find them late here, but in adapting to our season they would the next year be earlier. All seeds tend to adapt their growth to the changed circumstances. Take our flint corn to the west and it will dent.

J. S. HOFFMAN.—I have seen our yellow corn taken to the Wabash valley by a man who was going late in the spring, and so wanted our earlier corn to plant there. I saw the crop and it all dented the first season.

Mr. EVERETT—A Minnesota farmer, asked: Didn't dent corn grow near to cause the change by mixing? It will dent though as Mr. Hoffman says. I, too, have seen it in Minnesota. Henry Matthews took there some of our small seed and that dented. Our rule in changing seed is to take seed from the timber lands to use on the open prairie and from the prairie to the timber lands.

Mr. JENKINS.—I think the benefit of the change comes through the different soils rather than the localities, in our neighborhood changes. You get seed from the hills and it is usually raised on clay, while on these flats it is gravel or loam. Now if you should bring seed from a gravel or loam soil on the hill I think there would be not much advantage in the change.

Mr. WARD enquired if any one had known wheat raised from seed continuously produced on one farm as long as six years.

Mr. EVERETT.—Yes, ten or twelve years, and the quality kept good.

Mr. WARD.—When I came into this valley I found a man who had so raised wheat six years, and his crop was one-fourth chess.

Mr. McCANN asked if it was advisable to cut seed potatoes?

Mr. J. S. HOFFMAN—They are better planted whole.

Mr. FLETCHER CARR—I have experimented in this matter for the last five years, and I find that the whole seed comes up quicker and I think produces better potatoes.

Mr. J. R. CONKLIN—Something depends on the variety, the early rose for instance, with too much seed is not so early, besides more small potatoes are produced; so with that variety, I prefer cut seed and small pieces in the hill.

Mr. BILLINGS urged that if we are to believe the sworn statements of men, who claim to have produced all the way from three hundred to six hundred pounds from one, an argument would seem to be furnished in favor of cutting.

Mr. J. S. HOFFMAN—But how about the land planted with single eyes, as in such instances where the object is to propagate a variety?

The President—There is the difficulty. They make great yields according to the seed, and small yields as it regards acres planted.

Mr. BILLINGS—The president has made his argument in favor of raising our own seed, while I have given some attention to the matter, and while I have been successful in producing good seed, I have been able to procure equally good or even better by buying. He thinks the old seed is gathered in from the retail dealers and mixed with the new. It may be true, but I have for some years bought my seed from James Vick, of Rochester, and never failed to get fresh and good.

Mr. CONGDON—Do you buy it here or send to Vick?

Mr. BILLINGS—I send direct to him.

Mr. HOWELL—Why not buy here cheaper?

Mr. BILLINGS—Because I did not know his seed could be procured of our dealers and besides don't Mr. Howell know I like to put on style by sending abroad and paying more?

Mr. S. M. CARR—It has been my practice to raise my own garden seed until within the last few years, having grown careless I have bought, and with very poor fortune. Last year all the seeds I bought failed. Cabbage, I obtained from three or four sources and it all failed. I had nothing to succeed except a very few beets, and I attribute the failure to the old seed, as suggested by the President. In raising we must be particular to get the best, and also to gather just at the right time. Better take all the care than to be imposed on by dealers with worthless seed.

Mr. CONGDON—From six papers of parsnip seed, which I bought and sowed last year, I had just six parsnips.

Mr. BILLINGS—I know Mr. Carr is skillful, but I must attribute his failure to other

causes than poor seed. He has not closely observed his cabbage, and guarded the tender shoots from the depredations of insects. The tiny plants will come up in the morning, and if the state of the atmosphere is favorable, a little flea will light upon them and in twenty-four hours destroy all. Or if there is a long dry time just after the sowing, and then a beating rain, the earth is packed so hard the plants cannot push through. I insist that cabbage and turnip seed are both good, with unimpaired vitality, if they are kept as old as he is.

Mr. HOWELL—I saw yesterday a dealer in timothy seed with samples from Canada, and he was told by our dealers that they could do as well or better than to take his, in Chicago. He said he never sold his fine seed in Chicago, but he did sell them his inferior seed—what he called the tailings.

Mr. BILLINGS—I wouldn't buy his fine seed and take his promise to deliver.

Discussion running on to pumpkins grew facetious and the President promptly closed it.

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#### PLANNING FOR SPRING.

SATURDAY EVENING, Feb. 7, 1874.

Strangely enough, there are men with high credit for success in farming, who visit the Club week after week and listen with apparent interest to all that is said, but can never be provoked to interject a word—until after the President declares discussion closed, and the meeting adjourns, when these same men at once become the most voluble Solons, from whose lips issue little rivulets, broad streams, great floods of wisdom. No presiding officer knows how to call them out. Perhaps there is nothing to come out until the heaven has leavened the whole lump. Certainly they do not rise until after the meeting is closed. The attendance at this meeting was rather less than usual, but comprised farmers from several of the surrounding towns. The true scope of the question was apparently not perceived by all, and as usual there were disagreements, good-natured, critical and captious. The Club library continues to receive notice, especially from

the younger members and from ladies, many of whom visit the Club at every session to exchange books. The librarian always opens the hall an hour in advance of the regular discussion to afford proper time and facilities for the selection of books.

An inquiry by Mrs. Allen about washing with hard water was referred to a member whose wife is known to be an excellent house-keeper, and she replies: "Use sal soda at the rate of half a pound to the barrel of water if moderately hard, and more if very hard. The water must be drawn and the soda thrown in ten or twelve hours before using in order to give time for the lime to precipitate. When used, dip it carefully without disturbing the sediment. The same result can be attained by the use of good, strong, wood ashes, taking two quarts tied in a bag and thrown in the water a few hours before using. Of course ley will accomplish the same change by neutralizing the lime but there is danger in its use, that if strong the hands would be likely to be made sore."

After the usual preliminary business the President called the subject and Mr. SAMUEL A. CHAPMAN, who said: Farming stands at the head of all business. Upon its success depends the success of the merchant, the mechanic, and all classes and kinds of useful business. It is therefore of the first importance that the farmer should have his plans well laid to insure the successful production of food for all, and if possible a reasonable degree of profit for himself. He should know now just what fields to plow in the coming spring and where he will cut the grass for his cattle. Now is the time to perfect his plans, while the ground is locked by frost, and there is time for thought. Very many aids to success can now be arranged, which if left to spring, must then in the hurry and pressure of work be neglected. If I may mention some of those provisions which should be made now for the coming season, I should say first there is nothing which looks more satisfactory to the tired farmer than his shed well stored with wood prepared for burning, and I advise that such provision be made before the first of April; otherwise there is little likelihood

that it be done at all. We all know that it is very unpleasant to have a call for wood, when we come tired from the field and get that wood, must in some way be had. It is true economy to provide it now.

Another matter which should now receive attention is the putting of farm tools in efficient order. The harrow teeth, if not sharp, should at once be sharpened ready for use. It does not look well for the farmer to be at the shop with such a job at the very time when his harrow should be at work in the field. Another requirement is the preparation of seed grain which is sure to be done better if done now, because there is time to use. If you have not good seed, now is the time to look about and find it, and to put what you have through the mill, making it as pure and clean as you can, ready to cast on the field. It never pays to use poor seed if good can be obtained at any cost of labor or time.

Many farmers make terrible mistakes in the treatment of their animals. It is the custom with some to turn their horses out to pick their living as they may, aided only by a straw stack and late in March or April, to take up the poor animals and give a little grain as a fitting for severe labor at the opening of spring. I tell you a horse taken from such keeping can not be made ready for service in one or two weeks. The true way is to use him moderately all winter that he may be hardened for the excessive strain to be put upon him in spring. We have all observed that more horses are lost in the busy spring than at any other season, and I have no doubt that the real cause is the imperfect fitting for labor, rather than the excess of labor.

Good trusty help must be sought now if at all, and having found it, I recommend paying liberal wages. With help of this character you can afford good pay better than with careless laborers without any pay.

I have but indicated a few of the important matters that demand attention now. All the plans for spring must be arranged now, if the work is to go forward in good order. It is cheaper, easier and in every way better

to enter upon the work with plans and preparations complete.

Mr. JAMES McCANN furnished his quota of thought in the following suggestive paper, which he passed to the Secretary to read:

"No time of the year is strictly a period of rest with the industrious farmer, yet the long winter compels a cessation of out of door work and gives time for thought and study within the warm rooms of home. Now is the time for the farmer to arrange plans for the coming year for without plans no good end can be certainly attained. Hence he should determine during these long winter evenings exactly what fields he shall plant with each crop, the quantity and character of manure he will apply, and form an estimate of the results he hopes to attain. Some may say that all this is visionary, or building castles in the air. In my view it is prudence and good judgment. Admitting that all may not occur in exact accordance with the plan laid down; it then becomes the farmer to show himself a good general also and to devise and adopt a new plan suited to the altered circumstances and this may be done all the more readily if the winter studies have been thorough and comprehensive. No good general commences a campaign without first having made a plan with all the influences that may cause him to deviate therefrom, carefully studied and how such lines of deviation may lead to success. The year's work of the farmer is nothing but a campaign against weeds and insects and adverse influences, in the struggle to draw from the soil the fruits and vegetables, the grain and the grasses which furnish the necessary subsistence for himself and his dependants in the march through life. All this must be done in spite of drouth or insects. He must retrieve disaster and conquer disease in his cattle, if he would find profit in leading them fat to the shambles or with the fading year if he would send them into winter quarters increased in numbers and sound in health.—To accomplish all these ends, and to win every fight is no easy task, and requires much careful preliminary thought. Now is the time for it. Soon the snow will



have passed away and the mellow ground be ready for the plow and the seed, and then, if no plan has been formed, the farmer will be but little better than a ship at sea without rudder or compass. He will be behind in the beginning and a laggard at the harvest—while his neighbor who has his plans well made will be early in sowing, early in reaping, and early in the market, thus securing the profits of spring prices.

There may seem to be, with some of us, much difficulty in forming such plans, but really, nothing is more easy, if we give careful thought to the work. We must look over the fields and carefully note the different requirements, by which we shall be able to decide what seeds to sow and what fertilizers to use. Having done all this, he will find profit, as the season advances, in jotting down performances, with such observations as he may make about weather and dates of the various operations of plowing, sowing and harvesting, together with a record of the growth and changes in his crops. This will afford him the means for better calculations in the succeeding year.—Will he refuse to do this because it is so much trouble? Let him once begin and he will be surprised to see how much interest there is in the record of facts which serve not only to guide his present work, but to lead to the use of greater intelligence in future operations."

President HOFFMAN—I think I do too much planning, and that I carry out too few of my nicely arranged plans. My wife says I build castles in the air, and so say all who know me. I have plans now ten years old and not yet executed, but I am striving in that direction. Those plans are not written down in a brilliant volume, such as they might make, but they are stored away in memory, and I look them over often, and at least have pleasure in that. For the last six months I have been planning ditches which are not yet dug. I have been looking after the details, and the other day I happened to speak aloud of my subject of thought, in the presence of a gentlemen who had given much attention to drainage, and he

gave me a hint which will save me hundreds of dollars. There is profit then in thinking and laying plans for the future. The fact is the improvements in our farms and our business grow out of carefully arranged plans, and I venture the remark that we cannot plan too much, unless we fail entirely to execute.

MR. SAMUEL M. CARE—One of our present needs is to see how our work can be advanced by the use of new and improved implements, for the fact stands out with prominence that labor has advanced beyond other things since our late civil strife; while the products of the farm have settled back to old values, labor costs twice as much as it did in 1861, and we must govern ourselves accordingly. He who works one hundred or two hundred acres of land must have help of some sort, but let him ask, will it pay? I say it will not pay to employ labor at the present prices and we must therefore depend upon implements. I am thankful that I can get four or five days' work in one by the use of the mower and my horses, and now we want in the other departments of the farm similar aids, or our lands must be left in idleness. Of course at this season it is important that everything be put in order for work, that there may be no delay when the busy season comes. Every possible aid must be had and used, if there is to be an adequate return for farm labor. Lands must be drained and otherwise put in the best condition. And beyond all this, care of the family is a special subject for the farmers' thoughts. With three or four sons able to help, he may feel sorely tempted to deny the privileges of school. Let him consider well if he has a son with the promise of usefulness to be developed through study. He has no right to sacrifice the bright hopes of ambitious young manhood to his own good. Let him so plan his work that the young man of promise can develop his talent, for the world will want to use it.

MR. CHAPMAN—About seventeen years ago in a store in this place I noticed a single kernel of corn which was large and showy, but had something like a frosted look. Speaking of it, the proprietor told me it came from the

Hoffman farm. Some time after, passing by the old man's place, I called to make further inquiries about the corn, and the result of my visit was that I brought away some of that corn for seed, and I planted it on hill land and it grew enormously, and yielded as good a crop as I ever saw grow. I continued the use of that seed, always getting good crops for a few years, when it got mixed, and I went back to the original source with like success and result, too, for that mixed from a neighbor's corn across the road. I went then to a son of the old man and got the same variety, which yielded as before. I mention this success, continued through many years, because it was the direct result of an attention to small matters. If I had waited until time to plant I should never have had an ear of that seed nor the profits therefrom. In the hurry of the season I should each year have planted from my own crib, and should not have had as many dollars as I have now.

MR. WILKES W. JENKINS.—If we keep an accurate account of all our operations I think we shall not find much profit. If such accounts had been kept by all the members of this body for years past, in my opinion there would be no Farmers' Club here now, for the success noted would be so small that we should long ago have been driven into other business. Charge up the labor we do at the prices we have to pay for what we hire, and there is nothing left after paying up the bill. And then we cannot estimate results, as the merchant or the blacksmith can. There are too many elements to enter into the calculation. We may provide certain time and labor for gathering the hay, and while the calculations would do for fair weather, there comes a series of rainy days and we find the cost and trouble more than double our estimates. There is no fixed criterion by which we can measure cost and results.

MR. FLETCHER CARR.—Such remarks from such a source are quite surprising and at variance with the facts. We can keep accurate records at least of all that we do and by these records determine the question of profit and loss and so be better prepared to act in-

telligently in future ventures. I have kept such records and can tell you now the exact cost of each crop I raised in 1873, the number of day's labor in each field and the returns therefrom. On some fields I find I have lost and on others I have made nice profit. It does pay well to keep such accounts, and it is a shiftless lack of method to conduct a farm without.

A few days ago I called on Mr. Rockwell and found him engaged in preparing seed for the coming spring, putting it through the mill and fitting it thoroughly for immediate use. I was pleased with his forethought, and I am sure he will have his reward. If he should defer that extra labor to the busy season of spring it would not be done at all and he would have diminished crops. And there is another field in which we should all begin exploration, the great field of experiment. Where would be the telegraph now but for the persistent experiments of Morse, or the ocean cable but for the continued struggles of Field? Shame on those men who prate of discouragement, where there is good hope of abundant reward. We may fail in some things, we shall not in all. I attempted improvement in the culture of strawberries, and I lost the beds, but I gained knowledge. I lost a barrel of apples in testing the ways of keeping, but I learned how to save an infinite number of other barrels. This field of experiment is open to all and if every member of this Club would spend a little of his time working it, we should surely discover new sources of profit.

G. S. McCANN.—Right, all through his speech. And now after making two dollars, try to save it, or spend it for good purposes. Crockett's adage is still good "First see you're right then go ahead."

MR. SEELY I. CHAPMAN.—It is possible to go too fast, quite right to get all ready, but not to hurry always so soon as Spring opens. I have a neighbor who sowed a nine acre field of oats last spring, and the field was capable of producing fifty bushels to the acre but he harvested a little less than five. He hurried too much, his ground was wet and he sowed because he couldn't wait, while others

were getting their seed in drier ground. I tried the same thing on two acres when my horses would sink at every step to the fetlocks because the land was wet. I didn't get half a crop. We have to wait. Our neighbors on their gravelly soils can sow before we can stir on our clay hills, but let us wait until the ground is ready and ourselves well prepared and we shall not come out second.

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#### MARKETING CROPS.

SATURDAY EVENING, Feb. 14, 1874.

Much of the session was devoted to correspondence, of which but a small portion is of general interest. Several inquiries relating to spring wheat offered by Mr. Everett of Minnesota, for seed, at a recent meeting, have reached the Club and been duly answered. They suggest the propriety of briefly advertising the seed with the price, in the weekly newspapers.

J. R. L., Big Flats, writes—"I notice, in the discussion by the County Agricultural Society at Breesport, a recommendation to sow buckwheat, rye and grass seed all together. I wish you would call out the experiences of the Club, as I have a low wet piece to seed down which on account of the wet I can not sow until too late for good oats. If the plan is possible I would like to put the same in practice."

He must remember an important part of the instruction, relating to this mode, was the necessity for repeated plowings, insisted on by "Old Jo Rice" the Breesport speaker. His statements were based on truth. There are some portions of Steuben county where the plan is often adopted. The grass-seed can be delayed until the following spring if J. R. L. is in doubt about the catch when sown as directed—or better still, sow a portion heavy with timothy and clover at the time of sowing the buckwheat and rye, and the remainder sow in the usual way in the next March on the rye, thus affording data for future plans. None of the members in the large attendance of the evening had tried the way proposed. Mr. Fletcher Carr reported an experiment in a neighbor's field

last year, the rye and buckwheat being sown together with a satisfactory crop of buckwheat and the rye now promising. President Hoffman had been informed of a field in Chemung sown in the same manner with excellent results. The Club advises J. R. L. to venture, and to report his management of the field in question from the time of starting the plow to final results. So good a farmer as he will be sure to make thorough preparation by repeated stirring of the soil before the seed is sown, for therein lies much of the hope of success.

C. R. STUART, Watsonville, Maine, having noticed in the published report of Club discussions, disparaging remarks about sowed corn, sends his experience. He writes: "The difficulty in curing fodder corn is owing to the size of the stalk. So it occurred to me late in the fall of 1871, that curing might be facilitated by crushing. Accordingly I arranged a pair of wooden rollers to operate something like a clothes wringer, but not brought so close as to squeeze the juice from the stalks. I put through a small quantity which, after crushing, I spread on the ground to dry, but it was too late in the fall—too late for drying anything. I noticed, that it dried quite as fast as some second crop which I cut about the same time. I was encouraged to further experiment. So the next year, 1872, I went to the foundry and got a couple of suitable rollers, which I arranged for the work of crushing, and attached a horse power, and commenced putting the stalks through. I crushed four or five tons, but owing to the extremely unfavorable weather it nearly all got more or less damaged before it could be made sufficiently dry to mow away. Yet my cattle ate it well and seemed to do as well on it as on hay, and it was no small help to me in a year of scarcity, with hay at thirty-five to forty dollars per ton. The past year, having a great deal of other work to do, I planted only what corn I wanted to feed green, but I like the plan of crushing so well that I shall get a two-horse power and try it again soon as I am able. I think it is not <sup>h</sup> more expensive than the plans usually adopted, especially when

we consider that it can be stowed away in bulk like hay. It can be run through the machine very fast, and will dry, I should judge, in about the same time as coarse English hay."

Here is a Yankee idea astray, for anybody engaged in raising fodder can pick it up.

This is the way improved methods are attained. Mr. Stuart deserves commendation for his efforts to utilize a crop well nigh worthless to the average farmer, because of the difficulty in curing. We are constantly learning, or at least we ought to be learning. And some of our best farmers have learned that it is more profitable to raise grass than to get enormously large crops of juicy corn stalks. President HOFFMAN said labor must be cheaper in Maine than here—there is less juice in the stalks to dry out—or the process cannot be profitable. There is the carrying to and from the machine, and all the increased handling which can hardly be compensated by the benefit derived from crushing.

The subject selected for discussion was

#### MARKETING CROPS,

and the president called Mr. EZRA ROCKWELL, who said: In order to reach the market with desirable products, and to obtain the good prices which we all desire, the first requisite is the careful selection and cleansing of seed. All foul seeds must be screened out, and then to save further risk and trouble from them they should be chopped into feed (cooking would do) and fed out to the cattle in winter.

To get the greatest profit from the sale of buckwheat it should be sown early and threshed just as early as possible, free from dirt and at once floured. If kept late the price invariably declines. Oats, too, should be carried to market early, and to do that very early sowing is necessary. If they cannot be sold early, better hold over to sell in winter or spring, because after the first early market is supplied, dropping prices are sure to prevail for a considerable time. My own practice is to sow mixed seed, because two or more varieties will yield a greater crop than any single variety. I should recom-

mend holding wheat for a good price if it cannot be well sold as soon as threshed. Any time of year will do, and it is a crop which will keep safely. I get my rye floured in winter, and sell the flour, which yields as much profit as the whole grain, and leaves the coarse parts to feed. There are proper seasons for all our products, and by observing these much advantage in price is secured. Cattle which are fed for beef should be well kept until in March or even later, when good prices can always be had, because the supply at that time is always reduced. I am sometimes in doubt when to sell potatoes, but when there is a good price I think it is well to take them at once from the field to the purchaser. This season it has been profitable to hold them over, but that involves a considerable extra labor and care.

MR. SEELY P. CHAPMAN—We as producers I suppose are quite as much interested in the markets as the buyers are, and it is our business to observe the proper time and manner of delivering crops. With wheat and barley I have commonly done well by taking the first market price, getting the threshing done and delivery made as soon as possible. Later there are fluctuations in the price, sometimes advantageous to one side, and sometimes to the other. I had as lief take the first price, if that is fair, and be satisfied. As to buckwheat, I have usually found that in getting it floured and selling only the flour, I get about as much money as I would have if I sold the whole grain, and the bran is left as clean profit. If the price of potatoes is fair in the fall, I would always sell them and save all the risk of rotting, freezing and shrinking, to say nothing of the extra handling involved in keeping for a spring market. I have in past years sold considerable hay, taking it from the meadow and filling barns in the city, and have thought that there was no better way to sell, but I incline now to the belief that farmers, situated so near to market, would do better to hold hay and watch opportunities. With good roads the stables are always supplied from distant farmers, but there are times when they can not draw over long muddy roads, but with the short distance I have to

go, I can take my hay in at such times and fix my own price.

President HOFFMAN—If you can get forty cents for your potatoes in the fall, how much more should you want in the spring to pay your risk, care and extra labor of handling?

Mr. CHAPMAN—Forty cents from the field in the fall would be quite as good as fifty cents in the spring. I think it would be better.

Mr. CHARLES HELLER—My advice is to market all crops just as soon as they are ready, if prices are fair, for in holding there is always waste from rats and mice, besides in some crops there is a great deal of shrinkage, and in all, risk.

W. A. ARMSTRONG—One of the most important requisites is the neat and careful preparation for the market. Let everything be put in the best order, and be of the best quality, and let this become the established character of the farmers' products. Thenceforth there will be no seeking a market, purchasers will seek the products and always pay the highest rates. Character counts for a great deal, as it should, and when once established should be vigilantly guarded, the excellent products running into the same channels year after year. Here is our friend Harris, an excellent dairyman, who believes in character. He puts up his packages in good sweet order, and when he is ready to sell, buyers swarm upon him and he gets five cents more per pound than other equally good dairies which lack character. He is a good judge of quality, and I have his word that other butter just as good as his—and that is strictly fine—sells five cents lower, because it has not made reputation. There are customers in New York who await the arrival of his dairy every fall, and from it buy their winter supply at advanced rates, because they have learned to have confidence in it. Now this matter of character is scarcely less important in all the other products of the farm. The true course with a poor article is to sell it as such, or if grain, imperfect in growth or damaged by exposure, feed it to cattle or

work it into pork and sell that for just what it is, and it may be excellent.

Mr. G. W. HOLBERT.—I think there is something in being known. I am reminded of an effort I made once to sell a calf in our market. It was good, but as I took it around from place to place, every dealer would blow on quality, and offer me a ridiculously low price until at last I let it go for half what it was worth and learned my lesson, I say, now, any farmer who brings his produce into our market without first having found his customer is a fool—sure to be imposed upon and to get less than the real value. I tried the same thing once with butter and I met the same fate. I said then I would get enough together and send to New York, and I have done it ever since, and always with prompt and fair returns. I had some tubs of butter a year or two ago which I wanted to sell here, but the same difficulties arose so I sent it to New York and got eight cents a pound more than I could get offered here. If farmers would get together and send an agent down to make arrangements for the sale of their products there, they would realize always a handsome profit above any sales they can make in this market, and I say so after due trial. Even the grain market here amounts to naught. Millers buy their supplies at the west, and stand quite independent of us. They all want to take the profits off from the producer, and between him and the consumer there are several profits to be made. A few days ago I saw a farmer dragging a load of poultry about town, and although it was in nice order the dealers sneered at it as they did about my calf. If he sold it all he had to take a very small price, but I think he had to draw it home again. Now I could have directed him as I can you, where to send and get full returns without any commission taken out.

Mr. BILLINGS—Have you found a man in New York who will handle your produce without commission? How does he sustain himself? He must do a very large business to make his profits.

Mr. HOLBERT—He asks a greater price of the consumer—there is the spot where he

gets his profit—but he sends me prompt and full returns.

Mr. BILLINGS (an idea peering out under his eye brows)—Oh! I see! He don't make anything out of you. He don't want commissions!

Mr. W. A. WARD, (a former miller and farmer.) In this grain matter I have held both ends of the handle in my hands, and may therefore be able to speak of the true profits. In my judgment the proper time to sell is any time when there is a fair price and the farmer is ready. It is true, however, that there are certain seasons for some crops, as for instance barley, which has a market until malsters are supplied or have in their stock, and during that time is the proper season for selling because later the want being supplied there is no call and the odds and ends which then come must go for what is offered. The disturbance last fall in the finances has made, it is true, an exception of this year but I venture to say not twice in twenty years has the late market for barley been as good as the early. So of buckwheat there is a time to sell and later prices always drop. But a smaller portion of the country produces or uses this grain, and the demand is always early and lasts not long. To some extent the time of buying wool is also restricted, but this is an article that may be safely kept over. Wheat is an article in every day demand by every person, and therefore has always a market. If the price is not satisfactory it may be held with a certainty that it will always sell. Our home demand may make the late market for oats better. I suppose all we raise are consumed here, and the farmer may be left to use his own judgment about the time of selling. I suppose there is not a farmer here who may not save the coarse parts of his buckwheat to feed his stock, getting as much for his flour as he would for the whole grain, and of course serving him as profit. I heartily second the remarks of the Secretary about the character of products. Therein is the true secret of satisfactory sales, and then as a rule get the early market, for I do assure you there is enormous waste in holding. There are rats and leaks and shrink-

age—perhaps I shall surprise you when I say my estimate of losses from all causes, taking in the interest account, will often reach twenty-five per cent. for six months holding.

There is much prejudice against speculators in grain, but I assure there is very little grain actually bought up to hold for a rise. Men can, and do speculate as in stocks, make prices for future delivery, but no grain is handled in the operation. It is simply gambling, betting on the market.

Mr. D. E. HOWELL—I have used the Elmira markets many years, and cannot accept the statement made by Mr. Holbert. I have sold many calves, both on good and dull markets, on contract and on the street, and the same rule applies here which fits all markets. When there is a full supply, of course dealers are not anxious to purchase. Butchers engage their supplies before Thursday and there is no difficulty in realizing full prices while they are seeking supplies, but if Mr. Holbert takes his calf in and offers it after there are already enough on the market he must not be surprised if he has to come down. He is forcing a market. I believe in patronizing our home market. And there is a great advantage in having such a market. A great deal of inferior products, which would not bear transportation, find a market here. The trade in wool is ticklish, and there are almost as many grades as in butter; but it has one advantage—there is little or no shrinkage. Some men even claim that if closely packed it will gain slightly in weight by a year's keeping. But for several years past, with good opportunities for observing, I have been satisfied that those who sold immediately after shearing have generally done the best. I know now of a lot for which sixty-five cents was refused two years ago, and the next spring it had fallen to forty-five cents, and now with another clip is awaiting next spring market. As to holding potatoes, I should rather accept forty cents in the fall than sixty cents in the spring, for not to speak of shrinkage and rot, I would not carry them in and out of the cellar for ten cents a bushel. Whoever deals fairly in

our Elmira markets will be fairly treated himself, I have no doubt, and I regret to hear disparaging remarks about the advantages presented by our home market, for which we ought to be thankful.

Mr. HOLBERT—He is a dealer and wants us to sell our calves to him low. Why, last spring my brother sent three calves, hog-dressed, to New York, and they were only two or three weeks old—bobs. He got thirty-two dollars net. He could'n't have sold them to Mr. Howell for half that.

Mr. HOWELL—No; I don't deal in bobs. I never have dealt in them.

THE PRESIDENT—The best lesson of the evening is in the remarks about honest dealing and establishing character.

Mr. GEORGE S. McCANN—Yes; and next best let us aid the establishment of home manufactories of all kinds, for the workmen will consume our products, and we shall thus aid ourselves.

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#### FARM WASTE.

SATURDAY EVENING, Feb. 21, 1874.

All day, the clouds hung down upon the earth and dripped out a continuous drizzle. The roads were horribly muddy and the night dark, but all these discouragements were not enough to prevent a meeting. There were farmers who had come two miles and more, on foot, to take part in the discussion or to get useful hints tending to the prevention of waste. There was a show of statistics, to prove that the waste of seed, from its own imperfections and poorly prepared soil, and the waste in harvesting, are in this country much more than the tax upon all farms in the county. The recommendation was to diminish the areas in culture without lessening the amount of labor. Thus the one hundred and fifty thousand bushels of wheat now produced annually in Chemung county for which twelve thousand acres are required might as surely be raised on six thousand acres if all the labor expended on the greater area be concentrated on the smaller area, thus saving one half the seed or as much as ten thousand bushels in this small county, where wheat is not a leading article of pro-

duction. And there would be in such a sowing a greater gain in the release of one half the fields from tillage, and therefore a vast increase in grazing lands and in the fertility of all.

The census figures, by which it appears that the annual productions of farms in this county are but two and a quarter millions of dollars, afford plausible arguments to those who insist that farming does not pay. Without doubt, it does not in the case of those who by their shiftless practices have reached this negative conclusion, and who seem more anxious to fortify their misery by arguments than to find a way out. Waste does not yield any profit. This meeting yielded assent to the proposition, that there is an average loss on the hay crop of fully one dollar per ton, amounting to fifty thousand dollars in the county, every year; and this waste, resulting mostly from over ripeness, might be corrected without the least increase of cost or of labor. If it were generally known, that one ton of sweet, early cut hay contains much more nutrition than a ton of the later cut, with its greater proportion of woody fibre, a step would be taken toward the prevention of the waste. It is true that farmers look upon all innovations in their practices with suspicious concern. There is no lack of intelligence, but there is steady conservatism bred in from the beginning, hence change is adopted with slow caution. In the old days of hand labor it was not possible to gather the hay crop all in its season, and the habits established then are likely to last with the generation.

Mr. J. S. VAN DUZER—When I commenced farming I had been trained to business in New York city, where every minute detail of affairs received careful attention. In conversation with a friend I made the remark, that if farmers gave as close watchfulness to their business, there would not be a handful of grass left to waste in the fence corners. It is a small waste perhaps, in the mere loss of hay, but it is common on some farms to run the mower as near the fence as it is convenient to drive, and to leave the corners uncut, thus losing the product of so much land, and making besides places for the pre-

duction of thistles and other pests, which work in and are left to ripen and distribute their seed. And besides there is a great waste in fences. There is no reason why an ordinary farm should be cut up in four or five acre fields. One half the fences in this county are waste and the cost of maintenance is enormous. When I commenced business, I took two adjoining farms, one of which had been poorly tilled and fenced and the other not much better, but the fences furnished plenty of material to enclose large fields for both farms, and I used them to make such fields, effecting a great saving in material, in cost of maintenance and in available land and in my experience thus far, there has resulted from the change no inconvenience.

It is difficult to estimate farm waste in figures. There are so many conditions of waste, so many unnoticed losses, including many which in their very nature are inevitable, that we can scarcely approximate the real sum by which our receipts are annually diminished. In the figures shown us there are the elements of truth. Enough is shown to prove the necessity for greater vigilance. I believe in better tillage as the means of increasing farm products. Nevertheless, most farmers do now complain of the difficulty in procuring labor for such tillage as they give and with their extra efforts to achieve excellence, they believe they do not attain adequate rewards. I attempted thorough tillage in a field, in preparation for wheat and I had as my reward an enormous crop, but the next year with labor lavishly applied, as before, I was forced to accept a yield of but five bushels per acre. We have to meet discouragements quite out of our power to prevent. We must depend, after all our efforts are put forth upon favorable conditions of the elements. Perhaps these very uncertainties are the reason why we are so careless, although they furnish no argument against better tillage. There is always more hope of success in thorough preparation.

W. A. ARMSTRONG.—In the second experiment, which brought Mr. VanDuser the poor yield of five bushels of wheat to the acre, he may not have lost as much as the statement

shows. No doubt that the field was fitted for future production, and the increase so obtained may yet furnish his full reward. I attempted a great crop of wheat a year or two since, and to give perfect preparation, I expended two hundred and seventy-five dollars in well applied labor and manure on three and a half acres. I got no harvest of wheat—not one sheaf—but I made an unproductive field fertile. Before, it was without value, because it returned nothing more than the cost of the labor applied, and labor will bring its price in any market. Now the field is a safe dependence every year. A great crop of wheat would have been very gratifying as proof of my advancement in knowledge and no doubt I should have pointed to it with an assumption of superiority, but the complete failure of my expected reward did not diminish the value of the lesson learned.—My neighbor, on a field near the scene of my failure, in the same year, harvested a fine crop of wheat, and the seed was put in with the most shiftless lack of preparation, as he himself declared. The explanation was that his field was moist, low land, while mine was upland loam, and during the whole month of May not a shower of rain came. My wheat died from lack of nutrition, which was abundant within reach of the roots; but there was not moisture enough to release it. In a wet May his wheat would have perished from excess of moisture.

MR. S. M. CARR.—There is very great waste in seeding to grass. My observation leads me to believe that in this county the grass crop is seriously restricted by scanty seeding. The waste is stinginess. There are farms in the back towns where an acre gets but four quarts of grass seed, and there are many farmers who regard six quarts to the acre as very liberal seeding. Now that is not more than half the amount I use, and I am sure that I do not use too much. The true way is to fill the surface with grass roots at the beginning for it is an enormous waste to start here and there a stool and wait for them to spread over all the field.

We waste fertility by keeping land too long under the plow before returning it to



grass, and we waste our grass and hay in feeding stock of poor grade. A miserably mean animal will eat as much as one of better breed. A poor unproductive cow will consume as much as one that yields a full mess of milk. All that is fed to the former is thrown away and the profit from the latter must make up the loss. It is better to get rid of poor stock even if it must be killed to get it out of the way. There is improvement going on in the breeds of cattle in this county which is gratifying, but there is need of haste.

I do not agree with Mr. Van Duzer in the matter of enlarging our fields, although I know it is expensive to maintain fences. I prefer to have small fields, say four or five acres on small farms, thereby insuring fresh pastures. In large fields the continued efforts of cattle to select the best, tramp the grass down, and their lying on it and dropping the excrements render all unpalatable at last. By smaller fields this matter is corrected in giving to fields seasons of rest.

Mr. VAN DUZER—How small would you make fields on a farm of two hundred acres, with forty cows?

Mr. CARR—On such a farm, ten acres; but my remarks were meant to apply to ordinary smaller farms.

The discussion here took a wide range, running over the preparations for Spring work and the general carelessness of farmers in the care of tools, and in their lack of forethought.

The PRESIDENT—We do waste a great deal, and we do not seem to know how to stop waste, nor where the effort shall begin. I have a forty-acre meadow which gives a crop of grass so fine that it needs a fine tooth comb to rake it. I think the land ought to be worth \$150 an acre for farm purpose, but it does not pay five per cent. on fifty dollars. Now there is a waste in that field. Will some one tell me why? and how I may prevent it? I know I do suffer loss from the soaking of the manure pile, for the soakage escapes through the soil. How shall I prevent that?

With others here who speak of improved tillage, I believe in lessened areas of culture. Last season I had a field sown with wheat—one portion after oats and another after a hoed crop, the land highly manured last winter and the crop planted in the spring and thoroughly hoed during summer. On this portion nine-tenths of the wheat stands to-day, and it looks better than it did in the fall. The portion after oats is now without promise, and I confess should not have been sown with wheat. The argument is all in favor of thorough preparation. If there is any profit in wheat, it must come from that direction. We all admit that in our management there is great waste. Now the effort should be made to find out what are the sources of waste and then shut them off. We do not waste time in coming here to discuss these matters if we profit by the losses, and we may go to Van Etten and to Breeseport to discuss the same things there, without charging our time and work.

Mr. JOHN BRIDGMAN—One great obstacle to success is the habit into which some farmers fall of beginning late. There is a time in the spring when the seed should be sown, and if it is deferred to a late period it is behind in growth, in yield and in profit. This is especially true with corn, and besides, the labor of attending it is greatly increased. I believe that corn planted in good season may be kept properly cultivated and clear from weeds at one-half the cost required when there is a little delay in the planting and working.

Another bad habit into which some farmers fall is, the frequent change of employment by which the day is divided by several employments, every change producing waste of time. It is best to continue the working force upon the job first begun, if that be possible, until it is done.

Mr. VAN DUZER expressed his dislike to subjects of discussion which permit so wide a range. He would consider discussions more likely to result in a profitable increase of knowledge if we could narrow them more to individual experiences and observations. He did not regard the farmer's time wasted

when not engaged in manual labor, provided there was an exercise of brain faculties.—Those who have large operations may generally do better by giving their time to thought, arranging and devising plans, giving system to the work, and keeping the force usefully employed, than by taking hold with the laborers. He regarded as a good rule for such men, never to undertake a task which one of his laborers could perform as well.

Mr. S. A. CHAPMAN—Three years ago I had fifteen acres of wheat on my farm and that spring I put a tenant on with an agreement that he should cut the wheat whenever I said it was ready. When I thought it was about fit I drove out and cut a few sheaves, but it seemed a little green, so I told him to wait about three days. Then when he began he broke his cradle and lost a day, next day it rained, and the next he was sick, and as the result of my little delay, I lost as much as twenty bushels of wheat, and when I sold the crop the miller complained that I had let it get too ripe, and he was right.

Mr. FLETCHER CARR—It was the motto of a famous man that "He who rejects time—time will reject," meaning of course, it is better to seize upon the moment. Mr. Carr argued in favor of larger fields by which the cost of fences is lessened, and there is less proportion of unsightly corners too often suffered to grow up to thistles and other promiscuous weeds, which adorn the farm about as a dirty shirt collar does the wearer.

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#### CULTIVATION OF BARLEY.

SATURDAY EVENING, Feb. 23, 1874.

The first business of the evening was the exhibition of samples of spring wheat for seed, J. H. Fountain showing beautiful white seed raised in Minnesota. It is identical with that shown by S. Everett a few weeks since, so Mr. Everett turns his orders over to J. H. Fountain & Co., who have the seed in full supply at their mill. Other samples raised in Winona, Minnesota, were shown by Samuel Hotchkin, who has also enough to meet the demand, and at low rates. His varieties are Rio Grande and

Gold Drop, both red or amber and very fine for milling. All these are well worth trial and may fairly be expected to prove hardy and productive. Many inquiries for spring wheat have reached the club, and these references must be accepted as an answer to all.

Mr. M. C. BALDWIN, of Chemung, writes to enquire how he shall attempt to change the kind of timber on his wood lot, and what profits will attend the operation. He wants chestnut and walnut, where he now has pitch pine and scrub oak. Last fall he buried several bushels of the nuts to be ready for the spring planting, and is now in doubt which is the better plan, to sprout in the garden or nursery and set after a few years growth, or to plant at first where he desires the trees to grow. There is no man in the county whose judgment is a safer guide in these matters, than Mr. Baldwin himself. The opinion of the club, however, seemed to favor planting in the place where the trees are desired to stand, if the land is in a suitable condition to receive and germinate the seed. There is not much more work than in nursery planting and all the labor of resetting, which is much more than the original planting, is thus avoided.

On the question of profits Mr. Baldwin presents an attractive table of estimates footing up a total of \$12,800 in twenty years growth on forty acres, with such slight deductions for care that the whole sum might be regarded as profits. He would expect to crop the land without detriment to the trees, or, perhaps, with real advantage to them.

On the profit side Mr. S. CARR to whom the subject was referred to at a previous meeting now presented an elaborate report, most of which, however, it was deemed better to reserve for a future occasion. He cites one case: "A man bought a poor farm in Delaware about twenty years ago, and planted pine seeds and chestnuts along the bank of a creek where the land was gullied. The cost was twenty dollars for the labor and seed. He now has hundreds of cords of wood for fuel and abundance of saw logs

for his own use as the growth of twenty years as profit on the trifling investment.

Vice President McCANN, who occupied the chair, called the regular subject for discussion at a late hour—

#### CULTIVATION OF BARLEY

Mr. CHARLES HELLER—If I might select the ground most likely to meet the requirements of barley I should take corn stubble, or ground which had been planted to potatoes the previous year. I would cultivate it very thoroughly to get it in a fair tilth. If that could not be done by plowing once, I should plow twice. I would not be in a hurry to sow the seed in the early spring—better wait until the ground is dry and warm, so that growth can begin at once. Barley is a tender plant and suffers by frost almost as much as corn does. As to the seed, it should be barley, not oats and barley, nor barley and other stuff, nor even poor barley, but nice, even, plump seed all, and it should be very evenly distributed, either broadcast or drilled. The necessity for the even character of the seed and the even distribution appears when the crop is offered for sale. If it is not uniform it is not only less in price but is really less valuable for malting. Now this care taken in the selection of seed and even sowing all tends to insure even ripening. Then comes the critical moment. It must be harvested at exactly the right time to have the greatest value, and that time is when the field has a white silvery color. It should be cut after the dew is off in the morning, and after it has had the sun until the middle of the afternoon; it should be raked up and at once drawn into the barn. If I had one acre of barley I would harvest it according to this plan, being careful to cut it at the precise time when it has the silvery hue, and to draw it in on the same day without a drop of dew upon it, and if I had ten acres I should try to get help enough to get it all in on one day. Barley wants good ground, and it should never follow oats, because there will come some of the latter seed with the barley, thus damaging the crop. If these conditions are all

met, there is as much profit as in any other grain crop, and the land is left in good condition for wheat—almost as good as a summer fallow.

Mr. GEORGE MABY—How will it do on a clover lea? I have such a piece which I have thought of plowing for barley this spring.

Mr. HELLER—I never succeeded on any sod turned over for barley. It has a quick growth, and therefore needs a fine tilth, so that it can grow right forward from the beginning. I have harvested the crop in ninety days after sowing. On a clover field not long seeded, or in other words without much sod, perhaps it would do to venture.

Mr. SAMUEL A. CHAPMAN—Would it be safe to stow away a ten-acre crop cut in that silvery state and drawn in on the same day?

Mr. HELLER—If evenly ripened, without green heads, there would be no risk, and the grain would thresh out bright and without fault.

Mr. JOHN BRIDGMAN—Although of late I have not raised much barley, I used to make the crop a specialty. I preferred barley as less exhausting to the soil than oats. My mode was to turn under the rowen in the fall, getting all the growth after mowing in the proper season, for a first crop of hay. This on clover meadow makes a good coat of green manure to work in. On that I planted corn in the succeeding spring, and the next spring I plowed the corn stubble for barley. At that plowing the clover manuring showed plainly all through the furrow, and the field would be mellow like ashes. I never failed of a good crop when so managed, and as Mr. Heller has said, the land was always left by the barley in a good condition for wheat.

A miller who dealt in barley, then told me that in a long experience he had found the best season to sell always before the close of October and advised me never to hold later, and I think he was right. I do not know about the propriety of drawing in barley on the same day it is cut. I am afraid it would not often be ripened so evenly as to admit such stowing with safety. Of course it would

have to be raked loose and would require a great deal of room if the crop was large. I have always bound it in sheaves and set up in shocks to dry. Speaking of binding I know men object because of the sheaves, but I would rather bind barley than oats or wheat because the straw has less harshness than either. A heavy dew is as hurtful to barley as a rain for both color the grain in such a way as to lessen the price very materially.

The Secretary offering his modicum of knowledge said: It will not always do to sow barley after corn, even when the corn crop has been very good, indicating the requisite fertility in the soil. I remember an experiment wherein I undertook to raise an extra crop and with that design gave most thorough fitting to one acre, which was then planted and duly attended, even to pulling by hand the few weeds that appeared after the corn was too big to allow tilling. The acre gave one hundred and fifty bushels of ears, and the stubble was as clear of weeds as a naked fallow. The next spring it was plowed and sown with barley in the expectation of a great crop. The seed came up with a promising start, but soon there appeared innumerable weeds, and their vigor far surpassed the barley, so that long before the harvest they overtopped the crop, and not waiting for ripeness I cut and raked up the stinking mass for fodder. The mistake was in not planting again with corn and by every means coaxing into growth every weed seed in order to insure destruction by thorough tillage, for the land which could give one such crop of corn was strong enough to give another and then raise a good crop of barley. The old sod had been used more than twenty years for pasture and occasionally mowed, and thus the surface held an accumulation of weed seeds which had been awaiting the proper condition for germination. When the sod was evenly turned the first season all these seeds were safely preserved, and when brought to the surface by the subsequent plowing, then was the opportune moment, and all sprang into vigorous life.

Not only must the land be rich and clean, it must be even in character, for Mr. Heller

has well said, barley must reach that silvery state all at once to insure the best product. Hence there must be no wet spots nor dry knolls to disturb equality of character in the different portions of the field. But in one matter my experience does not tally with Mr. Heller's instruction. I have succeeded better when the seed has been sown early. I know the young plants will not endure heavy frosts, but I would venture a little chance of absolute safety.

MR. SEELY P. CHAPMAN—My objection to Mr. Heller's plan would be to the drawing in on the day of cutting. If bound and well set up with caps on the shocks, or if raked loose and left to cure in cocks a day or so, I think there would be more safety.

MR. F. McCONNELL—There is very much to be said in regard to the proper cultivation of barley, as well as of the modes of producing other grains. Barley is a delicate crop, and will not stand weeds, as we have just been told, but then, (with a glance toward the Secretary) good farmers don't raise weeds. We are often told how to till our land for this crop and for that. I have in mind the recollection of one man who was ever ready to give advice as to what to raise, how and where to raise it, where to settle down to farming, until with all this weight of responsibility he became demented and not long ago died lamented. There is a little story which will serve to indicate the great need:

Two neighbors, farmers, with lands separated only by a division fence, raised—one fine large crops, with luxuriant growth and regular profit; the other, poor, sickly stunted growth, and no profit—said he to the other, one day, looking over from his sorry field to his neighbor's, "How is that you succeed while I do not? What manure do you use on your land?"

"Brains," said the other.

Well, now, brains are the very substance; they make the very best manure; they are good for barley, and for all our crops. With proper preparation and care, barley is a very productive and profitable grain, and if my friend Maly wants

to turn his clover field for barley he can do it with safety if there is not much timothy in the sod, provided he will be careful to get the right kind of seed. In fact clover makes a good fitting for barley. It is true that weed seeds will remain for years in the ground and yet be ready to grow when the opportunity comes. Any one may find the proof in his clover field if he will observe where a balk is made in sowing—there the weed seeds spring into life.

But now in this matter of barley seed. I bought what was regarded as very superior barley, paying fourteen shillings a bushel, and then I washed this fine seed until one-half had floated off, and the remainder had then cost twenty-eight shillings a bushel, I used for seed with this result—sixty bushels to the acre as the yield, heads all on the upper surface even, plump and bright. How did I do it? Why, by washing. It is one of the best preparations. There will be kernels too light, some with the hull knocked, some broken and this process separates all these and leaves for use only good seed. Now roll it in plaster after the water is well drained off, and the plaster will take up the moisture, aid in sowing and is in itself a fertilizer. I can by this process raise the straw so high, (elevating his arm to a horizontal position) and the only true way to take up is to bind in sheaves, then set them two and two, with the heads firmly pressed together, in which position they will not hurt even if there be some rain before drawing. I will risk all the dews. Observe all these directions and you will harvest bright, heavy barley.

MR. S. A. CHAPMAN.—Do you say rain will not stain it?

MR. McCONNELL.—Yes sir. I say that barley properly bound and set up will take a considerable rain without appreciable injury, and if I couldn't raise it tall enough to bind I would quit the business. You effect that by taking out in the washing process the poor seeds, which, although they might grow, would not have vitality to push up where you want the crop.

MR. J. F. BEECHER.—Do you raise that tall barley in this county?

MR. McCONNELL.—Yessir. And to prove to you that these things can be done I will take a clover lea and raise a piece the coming season.

MR. CHAPMAN.—Would you drill the seed?

MR. McCONNELL.—That is a mere matter of taste. If the seed is evenly distributed by hand it is just as well.

MR. HELLER.—I will gather mine and put it in the barn the same day without binding, and it will come out brighter than his will.

MR. McCONNELL.—If it rains, what will you do?

MR. HELLER.—If it rains mine will be hurt and his not less hurt.

MR. W. W. JENKINS enquired if barley would not color before cutting, and was answered by Mr. Heller.

Yes, in wet weather, and if cut with heads lying on the ground, will grow in twenty-four hours.

MR. VAN GORDER questioned Mr. McConnell about the tall growth, and receiving assurances that it could be produced, solicited some bundles to be used next fall in binding up his corn.

Vice-President McCANN—Good clover lea may be safely used for barley without doubt. I think it would be quite as good as corn stubble or potato fields. Some years ago I remember cutting Mr. Heller's barley with a reaper, and he took it in, as he has told us, on the same day. I thought it would be injured, but I saw it threshed in the following winter and it was bright.

MR. J. H. FOUNTAIN—Two or three years ago I undertook farming on high priced land which I bought near Seneca Lake. I thought I could do something with barley and according had a piece fitted. My neighbors advised me to sow early. The soil was a black loam with some clay, and in the spring wet, but I had barley sowed early, in the wet as advised. Before I got through a

neighbor advised me to trade horses with him because as he said it would be better for me, and being advised I acted, by which means I had one horse that worked and one that wouldn't. Well the seed came up sparingly—quite sparingly—and then there came drouth which didn't help it much. Soon there came beautiful pink blossoms scattered all over the field which my neighbors said were thistles—Canada thistles, and they advised me to get a supply of gloves to bind in. Well, being advised, I sent for the gloves, but we didn't need them, because there wasn't straw enough to bind. When we got it raked up and ready to draw I found that it was very bad to load. While we built up on one side of the rigging the barley would slide off on the other. However, we got it to the barn where I intended to stack it. They advised me to stack it. Well, such work was very perplexing. One side of the stack would slip off, and when we arranged that the other side would slip, when it was done it was a very singular looking stack. My neighbors advised me to thresh it which I felt quite inolined to do, because it stood in plain view of the road. Being advised, I did thrash and put the crop on the market. I believe I sold for about fifty cents a bushel, and my crop showed a gain of one hundred per cent.—that is, I got two bushels to sell for every one I sowed.

MR. MCCONNELL.—He raised barley under advice, and was served right.

MR. FAIRBANKS narrated experience thus.—I plowed an old pasture and planted to corn and potatoes, which I cultivated and hoed well, making all tolerably clean of weeds, but as in other fields there were some of the little weeds left to perfect their seeds. The next spring I plowed the whole and sowed barley, and it grew as high as my shoulder; it was all cut by a cradle and bound in sheaves. There was no trouble with weeds. I think perhaps if barley can be cut when just right it may safely be put in on the same day.

Now there is much difference of opinion expressed in these discussions, as I observe by reading the reports. Why? Because

men do not consider the different circumstances. A witness, being asked which way a flight of stairs led, answered, "That depends on where you stand—if at the foot, it leads upward; if at the top, it leads downward. Now there are such differences to consider in farm operations. There are differences of soils and of situations. Not all soils will raise barley.

MR. BEECHER and others endeavored to draw forth statements of yield, but without effect, big stories passing at a heavy discount.

MR. EVERETT, of Minnesota, would venture one. "In my section one man planted twenty-seven hundred acres of white beans," and being properly vouched, the story was allowed to pass, although several members pronounced it windy.

MR. EVERETT explained—"He was the agent of a colony, who came a year in advance, and used this crop to fit the land for future operations."

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#### OVERSTOCKING.

SATURDAY EVENING, March 7, 1874.

The membership of the Club is steadily increasing, and the interest is in no degree diminished. Although the roads have been in a horrible condition for several of the last meetings, and the difficulty of reaching the hall farther aggravated by drizzling rains, there has not been a meeting since the year began which was not well attended, and in which the discussion was not animated. A noticeable feature in the accession of names is the unusual proportion of young men who join. They attend, too, with regularity, patronize the library, and sometimes take part in the debates.

In the regular order of business the President calls on the members to state their wants. Stock, grain or other property to sell—what is wanted on the farm, and suggestions of a general nature touching the interests of the institution. This call at the last meeting brought ten horses, in teams and single, from fair to extra good, all seek-

ing purchasers. So there were calls for seed, for swine, and other needs. Sometimes it happens that very considerable transactions are made in exchanges of this character within the five minutes given.

Everything being ready, President HOFFMAN opened the selected subject

#### OVERSTOCKING.

This subject is susceptible of various meanings, but the sense in which we are to consider it, is the excess of stock on our farms—beyond the profitable limit—too many in number and requirements for the feed. It needs no argument to prove that such overstocking is always wrong. Whoever does so stock his fields with whatever kind of stock commits a great evil. But what one farmer would call an excess of stock another would not. We shall not consider this matter all with the same ideas of what constitutes the evil. Should pasture be fed down close? I have some friends in Orange county, very successful grazers, who say old pastures should be fed down for the good of the sod, and they certainly do establish the grass firmly on their lands, but we are to note the fact that their soil is better adapted to permanent grass than ours. Now while these men keep a great many cows and feed their pasture close, they would be overstocked if they fed nothing more, but they feed in the stable grain every day to their cows, and they also offer hay or grass fodder of some kind. Of course we can carry a great stock on a little land if we supplement the short pasture with a proper allowance of grain, and the man who does that is not overstocked. I have been speaking more of keeping cows than other stock. When they are required to keep pastures so close that a weed cannot spring up, and no extra feed is given them, they will not yield much profit, and under such treatment the grass in the pastures will at last die out, I think.

Now if I were pasturing fattening steers, I should not want such close eating as the cows have. To judge from our friend Carpenter, who is eminently successful in feeding steers, I should say one-half the grass on the pasture land must be allowed to grow

up and mature. Putting on so many hoofs as to prevent any of the grass from reaching full development he would regard as overstocking with steers. I believe he is right, and the proof is in his great success. But his is a specialty—beef. Now we must not apply the same rules to other stock. We often pass fields where we see large herds of cattle, and the grass grazed close to the ground and we may say hastily, that land is overstocked. Now it will not do to decide just on the appearance of the pasture; we must first see the grain bins and ask what is fed out of them. I believe it is an advantage the farmer has when he keeps more stock than his pastures can carry and makes up the deficiency with grain. There are so many circumstances to consider that our rules can only be general, leaving every farmer free to modify them according to his knowledge of his own situation. And this leads me to ask: Are we overstocked in knowledge? I believe we do not reach that condition. We do get too much knowledge—in our own estimation. But we deceive nobody but ourselves when we grow so wise in our own conceit. But, seriously, I believe some do get overstocked in book knowledge. Their study has filled them with much that is not useful. It certainly is possible to pursue knowledge with so much zeal as to forget the affairs of our lives demanding every-day attention.

In one particular branch of farm stock it is very easy and very common to overstock. I allude to horses, and the fact that five or six teams are offered here for sale proves that these farmers are ready to unload. Now if I were to make one general rule for all farmers to regulate the number of all the animals to be kept, I should say keep no more than can be maintained in such average condition all the year round that one half of the number could at any time be fit to drive to the butcher. If cattle are not kept up to that standard they are not doing as well as they ought to do. Of course I do not mean that they should be finished beef, but rather in that high condition of thrift which would pass the inspection of the butcher almost as well. Whoever has more

animals than he can keep according to this rule should sell off down to that point where he can improve keeping, until his stock attains the degree of thrift indicated. Now this rule as I have said must be regarded as a general one, but all will understand that milch cows cannot be kept fat, there are seasons when they will be poor, especially such as are of superior value as milkers. With such good feed means good products if there be not fat.

Now in answer to the question how close shall we feed pasture land, I can only answer generally. With such stock as I keep—cows, I prefer to feed rather close and add feeds of grain whenever there is need. In the Spring I would turn on some fields so early that the cows should get the first green blade. There are fields when the herbage is of a rank, coarse character—lands a little swampy, or swales—such pasture fed early and close is much sweeter than when further matured. Of course, I would keep such closely fed, in order to make all that grows, fresh.

Mr. FITCH—I give hearty assent to all that the President has said. In my experience I have fallen more than once into the error of overstocking, and I have always lost by it. As I now feel I judge thirty cows enough to put on a farm of two hundred acres of good land. Some would say forty, and others, fifty; but I would be satisfied with the thirty, and better feed,—Of course, I would not expect to feed up everything produced by the farm. My opinion is that cows want more grass than fattening cattle need. I find that I always over-estimate the carrying capacity of my pastures in the Spring. I buy what steers I want and put on, thinking they cannot consume half the feed, but even with that estimate I sometimes find the pasture overstocked along in August or September. I remember one season, when in June I turned in thirty steers and the grass was certainly big enough then to cut a ton to the acre. I couldn't get all the stock I wanted at fair prices so I told a neighbor he might put on some of his steers, which I thought better than to let the grass waste. The result was when I

went to inspect my cattle two or three weeks after, they were not as good as when I had that extra lot turned in, so I told my neighbor to take his steers out at once. He did and mine went on improving. Now there was plenty of grass for all, in bulk, but I suppose it became unpalatable from the tramping of so many feet and the increase of the droppings.

My opinions have undergone another change in regard to the season of turning out. I would turn out as soon as the snow goes off and the first young grass appears, especially on clover pasture, which is thus kept young and fresh, and I would keep less cattle than I would want, in order to secure good fresh feed in the fall. Such feed saves very much of the cost of animal keeping. In open winter weather young cattle on such fields get much picking that is good for them, and the past winter, the first in years, I have been induced to let my cows run out by the apprehension that I should lack fodder. The result is I shall have several tons of hay to sell.

Inquisitive members subjected Mr. Fitch to a rigid questioning in regard to the limit fixed, thirty cows to two hundred acres of land, and thereby drew out plans which appeared to include the raising of grain for the double purpose of securing ample supply of nutritious food for the cows at all seasons of the year, and to afford a surplus for sale. He had fixed the limit low in numbers to insure absolute plenty of feed, thereby obtaining the best guaranty of profit.

Mr. S. P. CHAPMAN—Thirty cows to two hundred acres of land looks to me like very light stocking, it certainly is light if one expects to get the profit from the cattle alone. I bought twenty-six acres of land from Mr. Fitch, so I can speak from the same basis of knowledge, and I will give you a report of what I did on that land. Ten acres of it was wood land and the remainder but partially cleared. I cut off the bushes and put the sixteen acres through a summer fallow on which I raised a good crop of wheat and seeded with clover and timothy. The next season after the harvest, I put on twenty head of young cattle, and there proved to be



more pasture than they needed, so I took eight horses to pasture and there was enough for all on the twenty-six acres, although the ten acres in timber produced very little.—Certainly if land is devoted to stock it will bear more than he would allow.

Mr. FITCH—Young stock will not begin to consume as much as full grown cows in milk. I believe the cows want more feed and better feed than any other class of stock.

Mr. J. R. CONKLING—There is no doubt that land may be pastured so closely as to kill out the grass even to the roots, and this is especially true with close fall pasturing, by which the protection which should be afforded against the severity of winter is removed. Year after year of such nakedness will utterly destroy the best sod.

Winters like the one just past, with little protection from snow, are particularly injurious to closely fed grass lands. He who has so much stock that he must bare his pastures of the protection given by the late growth is certainly overstocked.

The President—In my judgment a good sod may be maintained even with close pasturing if the soil is properly constituted for grass, and the necessary conditions observed. But we cannot do it and take everything off to sell. It will not do to depend on the droppings alone to maintain fertility. There is always taken away the elements that make bone—the constituents that enter into all the growth—the beef, the milk, the wool—and by and by these elements are so far abstracted from the soil that the sod fails to afford profit. Now if a just return be made of all these, there is no reason why a thickly set, firm sod may not be indefinitely maintained. If we give grain feed and return the manure we effect this in some degree. It is said that oil meal used as feed makes the manure rich. Hence it is a favorite feed in England, where due attention is given to the preservation of fertility in the soil. An old acquaintance, in Orange county, once said to me, "We are fast exhausting our lands by running off the milk to New York. We are taking the substance

right out of them, and if we don't soon bring back our trains laden with manure, we shall soon quit sending off milk." Dairymen are effecting this now by the use of grain. They sell milk and buy grain to feed, which is a compensation to the land.

I think Mr. Fitch has not been understood in the estimate he has made of the number of cows to keep on a two hundred acre farm. He means mixed farming, and he would fix that low limit as a safe one, and then feed all his coarse grains as far as needed. He would use up his corn and the refuse of his wheat and other stuff and sell butter and milk and oats and wheat. He is certainly right when he says that good cows are voracious feeders, and looking to the maximum of profit he is right in providing a full generous supply of good feed at all seasons of the year. I think a good cow will eat more than a working ox—more than our friend McCann's mammoth steer.

Mr. J. McCANN—Any lean animal will eat more than a fat one of the same class. A fat steer will eat less than a growing one. With steers it is bad policy to pasture closely in any part of the year, and especially bad in the fall, because the sod gnawed down will not withstand the winter. When I used to make a business of feeding steers I kept as many over winter as I thought I would on the pastures, and in the spring if the number seemed too great I sold down always to the point of safety. With pastures fed off not more than one-half or two-thirds the growth, the sod will thicken and get better from year to year, but if fed much closer, on most lands in this vicinity, it will thin out. A field, which I used exclusively for my steers, about thirty acres in extent, grew constantly better under this partial grazing and with frequent applications of plaster, so that at last when I sold it the feed was always superior in flesh-producing capacity.

Mr. FITCH—Carpenter has two hundred acres of the best land in this county, and I know he does not average over thirty-five steers on it the year through, and only one span of horses. Every year there are two or three months with no stock—his steers be-

ing sold off and the purchases of other stock not yet made.

These small estimates of stock again called out the queries of cavillers—Why should so much land be used to accomplish such small results? Would it not be better to soil?

Mr. BRIDGMAN—I have given much thought to this matter of soiling, and without full experience the only difficulty seems to be labor. There is no doubt that the carrying capacity of our land might be vastly increased by soiling—giving the stock a run on only a very small piece. I should like to attempt it but for the labor, but I am well assured that to meet all the requirements a vast increase of labor in the upper story would be involved, and besides far more serious backaches than I now have. The provision to be made, the methodical manner of supply, the absolute regularity of attention, all indicate a higher degree of skill as a prime requisite of success, and this skill is not obtained with every laborer. I should like very much to show what I could do on my one hundred and thirty acres. I should not hesitate to start with eighty cows, but the dread of extra labor deters me, while I know there would be magnificent profit.

The President—I have a friend who attempted soiling on his farm of one hundred acres—about seventy under high cultivation. He went through one year with a large stock of cattle, and then abandoned soiling. I asked why? Said he, "It produces too much; my land doubles its capacity. But I cannot stand the labor." While he proved the plan entirely practicable, he found the difficulty Mr. Bridgman apprehends—his own labor was made too exhausting and he chose to accept less profit with less labor.

#### CULTIVATION AND USES OF THE CORN CROP.

Saturday, March 14.

The chess question has vexed the world for ages, and will continue to, it may be, after Darwinism, evolution and transmutation are all forgotten. But here is a new kind of vegetable metempsychosis. A gentleman whose experience is obtained in Sullivan

county, writes: "I cleaned a piece of new ground and summer fallowed it, and at the proper season sowed on it good clean winter wheat free from all kinds of foul seeds, chess and cockle included. The soil was a black muck and my preparation had put it in good order. A portion of the field was soil of a different character, and on that I obtained good wheat at the harvest, while on the muck I cradled as heavy a crop of cockle as I ever did of buckwheat. It was all cockle. Now I want your judgment on its origin."

The Secretary—He may feel sure, not a kernel of his wheat produced cockle.

Mr. D. T. BILLINGS—That cockle was in his wheat although he thought it was clean. I have seen hundreds of samples of seed warranted perfectly clean, in which careful search revealed both cockle and chess.

The President—It appears he had wheat on a portion of the field, while the muck produced cockle, thus showing that all might have been due to the soil.

Mr. BRIDGMAN—I want to ask the Secretary—does he believe wheat will turn to chess?

The Secretary—Respectfully. No!

Mr. BRIDGMAN—Long ago my father prepared a piece by a thorough summer fallow, and he sowed wheat in season to get a heavy fall growth. He thought it well to reduce the top and accordingly turned on several hundred sheep, and they gnawed it close. The next harvest brought an immense yield of chess, with scarcely any wheat. It was his opinion that the wheat actually turned to chess.

The President—I remember the field. He broke it up with four yoke of cattle, and almost the whole summer he had three horses cross-plowing, and then he had it dragged by these horses. There was some wheat, I remember, but a great portion of the yield was chess, which I attribute to the chess sown with the wheat. Being a hardy plant it will not succumb to hardships which destroy the more tender wheat.

The question will not be so profitable as

that on which Mr. McCANN is now to speak.

#### THE CULTIVATION AND USES OF CORN.

Mr. GEORGE S. McCANN—Corn is a grain of great value—next to wheat in the support of man. It is supposed to have had its origin in America, although there are writers who speak of South Africa as the field where it first appeared. At present there is no known place where it is a spontaneous growth.

To produce good full crops, corn requires warm rich land, and it must be dry soil. I prefer sod and that it should be plowed in the fall, especially if there is much clay, and I think the fall plowing sod land for corn, good, even on gravel land. Just before planting I should plow again. I would not plow very deep—five or six inches are enough. Furrow out three and a half feet apart—the field, of course, being very thoroughly dragged beforehand. It is very important that the seed be good; every farmer should be particular to select the best when he husks his crop. My idea is that stalks which produce two ears are better to furnish seed. My choice is the eight-rowed yellow, and next eight-rowed white flint. These varieties have small cob and sound bright grain, while the twelve or sixteen-rowed kinds have always very large cobs. Roll the seed in plaster, and if it is desired to keep the crows off, coat it with gas tar.

The seed I would cover rather deep—I think as much as two inches of fine earth is about right to put over the seed taking an average of seasons. As soon as the shoots appear above ground put on plaster and commence cultivating. In a twenty acre field it will pay to keep a man and horse constantly employed until the growth is so great that he cannot longer work without breaking the stalks down.

Hoeing is also an important process. The later cultivation should be done with the plow. At first throw the furrow from the hills, and the next plowing towards the hills, keeping the earth stirred as much as possible as long as work is practicable. After the corn has made a good start, it is well

to give it a second plastering, broadcast this time, because the roots will extend over the whole surface about the time the stalks are knee-high, and the plaster sown will do as much good as dropped on the hills, and the sowing is more expeditious and easy. I have tried some experiments with manures in the hill. I put hen manure on two rows, and could see an improved growth all the season. The next season I tried a mixture of ashes and hen manure applied to the hills in alternate rows. No effect whatever was seen from the application. I learned afterward that the ashes neutralized the properties of the hen manure. Now as to the number of stalks in the hill, it is important not to have too many. Four are enough, and three are still better. The fewer number is likely to produce the greater yield of grain. I think two stalks are better than six in a hill. As to the time of planting, on our gravelly, warm flats I would get the seed in the very first of May, certainly not later than the tenth. On clay uplands, from the tenth to the twentieth of May. When we come to harvest, there is more particular work to get it cut and shocked up just at the right time. Do this early, before the stalks are dried up, and then just as soon as it will do to husk, attend to that, saving the seed then for the next crop, and the best way to save it is the old-fashioned way of braiding and hanging up. If any one can make a rat-proof crib, there is the best place to store the corn; and the stalks, as soon as husking is over, should be put into a stack.

Now with all this care, the farmer whose land is capable of producing corn, may be tolerably sure of a fair crop of the most generally useful of all the grains. Corn is good for man and for his domestic animals, it is good for birds, and of it is made whiskey, which many pronounce good—doubtful, I should say.

I have made estimates of the various items entering into the cost of corn, by which it will appear that there is not much cash profit. In fact the figures put the balance on the wrong side. My estimate is on land worth one hundred and fifty dollars per acre, and the stalks I count as a fair offset against

the cost of the manure used to produce the corn:

Interest and tax on land.....	\$10 50
Plowing and dragging.....	5 00
Furrowing.....	1 50
Seed and plaster.....	1 00
Cultivating.....	3 00
Cutting and husking.....	4 50
Drawing, storing, marketing, handling, &c.....	5 00

\$30 50

I think we don't average in this county any more than thirty bushels to the acre, but I will suppose thirty-five, and that it is worth, seventy cents per bushel, making the acre worth \$24 50. Actual cash loss per acre \$6 00.

It is true, this allows a profit on the work; what loss there is comes out of that, because at four dollars a day for team work the estimate is large. Still all this work would bring cash without the use of the land. I conclude, there is an actual loss on every average acre.

W. A. ARMSTRONG—"Lame and impotent conclusion!" Why, there is no crop of more general use, and none more certain to produce fair profits. I am astonished that so good a farmer should find a loss of six dollars on every acre of corn, and if he is speaking of his own production, it is still more wonderful, for we all know his land is of the best kind. Certainly there is some mistake. He has underestimated the value of the stalks, although if he stacks them and feeds in the open field he is not far wrong because he encounters such extravagant waste. That is not the way to realize their worth. They should be stored and fed under good shelter, and then they make excellent fodder—better than sowed corn. If in averaging the corn production for the county he takes in all the wet cold lands of the hilly towns where farmers raise, not for profit, because they know their soil is not favorable for corn, but nevertheless where for their own convenience they do plant small fields, he takes a wrong basis and thereby gives the county a bad showing. He should speak of what we are accustomed to style corn lands. Now can it be possible

that on these lands—say his own lands—he regards thirty or thirty-five bushels a fair average per acre? If so, there is something wrong. I gathered one hundred and fifty bushels of ears from one acre three years ago, and there are men in this hall who have beaten that considerably. Less than one hundred bushels is not a good fair yield.

Mr. McCANN—I had a nice field of corn which looked so good that I thought the best acre might take a premium at the County fair. Accordingly I had an acre measured out of the best of the field, and when it was husked I found I had ninety-seven bushels of ears. I don't dispute that one hundred or one hundred and fifty bushels can be raised on an acre, but I assert that we don't make any such average. As to the stalks, I do not value them very highly for fodder.

Mr. JAMES M. BAKER—Wouldn't it be better on fall plowed sod land, to omit the spring plowing?

Mr. McCANN—No sir; I would plow just before the planting, thus mellowing the soil and destroying the weeds which had already started.

Mr. BAKER—I tried that course once, and I thought it destroyed my crop. My theory is that in disturbing the hot bed made by the decaying sod, I deprived the young plants of a vigorous start. It is certain that I got but a poor yield and the chance was good but for my mismanagement of the sod.

Mr. G. W. HOLBERT—Mr. McCann has as good land as there is in the county, so we may regard his estimate of the yield per acre as fully up to the truth and perhaps considerably beyond.

Mr. MATT BROWN.—The trouble with those farmers who get light yields of corn is that they don't put on elbow grease.—They must work for it. The weeds must be kept down and the ground kept loose. A good crop of corn don't grow on land that is producing a great crop of weeds at the same time. With good land and enough corn I

know we can do better than Mr. McCann's estimate. For five years I raised corn in New Jersey and I got good crops and profit with them, but I didn't fail to keep the weeds out. We depend too much on machines which we can ride. Now get back to the old-fashioned hoe and honest work, and there will be no failure in corn.

The President enquired about the general sentiment in regard to the proper depth to plow, when with entire unanimity all declared five or six inches deep enough to turn the sod for corn.

Mr. McCANN—How about grubs?

Mr. S. M. CARR—I think the trouble with them generally comes in old timothy sod. After a very unfortunate experience with such a field, I now declare oats a better crop the first season, because the grass will not quite support them and they are liable to clean out corn. I planted such a piece last season and not one hill in fifty was left. This year I shall plant the same piece although that is not regarded as good farming, but the grubs have had their day and I shall have a chance to get a good crop. In my judgment the best preparation for corn is a good clover lea.

Mr. McCANN—Fall plowed?

Mr. CARR—Not on my land. It may do well in some situations, but I never had success in fall plowing for any crop. As to the yield, we can certainly obtain one hundred bushels of ears to the acre without more than ordinary good care.

Mr. FERD F. MILLS—My experience has been on hill land. I would plow my land in the fall and in the spring just before planting, while the surface is dry give very thorough dragging, by which I would make the seed bed mellow and would also destroy the weeds. The harrow will destroy more weeds in a day than I can with a hoe in a week. The marking is better done with a plow, at least one way. The marker will do very well to cross, and will fill the furrow somewhat with the loose earth lifted by the plow. Hen manure is excellent, but if used in the hill it should be dropped and thinly covered

with earth, because if in contact with the seed it will heat it so powerfully as to spoil it. Last season I had four acres on my hill farm that gave me one hundred bushels of ears to the acre, and there was not a hoe used in the field except to straighten what the cultivator pushed over. Twenty rows were left without manure in the hill, and although all other circumstances were the same, those rows were behind in the start—stayed behind all the season and came out with less yield. They were not half as good as the manured portion. I would not plant as deep as Mr. McCann directs. In fine growing weather an inch or even less is plenty of covering for the seed. In backward weather perhaps a little more earth is better to prevent drying out. The cutting and husking should be done just as soon as the corn is fit. Now, whoever will work by this plan on any land at all suited to corn will succeed in obtaining a profitable crop.

Messrs. Griswold, Bridgman, Coats, Holbert, Heller and others furnished estimates of their average production per acre through a period of ten years. It is enough to say that their figures were quite too modest to present to the public gaze.

President HOFFMAN—I, too, feel like having a tilt with Mr. McCann. My cause of complaint is in the use of the plow, as he recommends when the corn is so high that the horse knocks it down by rubbing against it. Has he not himself furnished a reason why the plow should not be put in at that late stage of growth? Does he desire to cut off those roots which he says interweave the whole surface soil between the rows and thus deprive the growing plants of their sources of growth? I should say then is the time when the deep work of the plow is to be avoided, and if work must be done, let it be with the cultivator which scarifies the surface. I would use the plow early and on rough land. I can accomplish more with it than he can with the cultivator. At the earlier stages of growth it is more work to clean off, dig out, and straighten up the hills after the cultivator, especially

when the land is uneven or rough, than it is to use the plow and hoe. After the plants are fourteen inches high give clean surface cultivation, but after they have attained two feet do not use the plow unless an argument can be furnished for cutting off the roots.

And then, gentlemen have put the average yield too low. The Secretary has well said that it will not do to count in the patches raised on lands not fitted for the crop and where the effort is only made as a matter of personal convenience. Mr. Mills has reported the product from his hill land which is much better than several speakers claim on these flats. And I have seen as good corn on the farm adjoining as I ever saw. I have seen one hundred and twenty bushels of sound assorted corn to the acre on that farm and this was the average of a large field. I could not put the average of our corn lands, whether on the hills, or on the flats, at less than forty-five bushels shelled corn to the acre.

Mr. McCann makes another error when he puts the stalks against the manure. Now can this be fair when all will admit that the crop which succeeds the corn, whether it be wheat, (which it is true must be a little behind the proper season of sowing) or barley or oats will do better than if sowed as the first crop. Every day's work or load of manure applied with a proper degree of intelligence should count fifty per cent. of its value towards the permanent improvement of the land on which it is expended.

Mr. FLETCHER CARR—Will it pay to raise corn?

The President—Why, yes! It is true we have the great west to compete with us, but still corn pays.

Mr. McCANN—Of all the tools to make corn I declare the plow the best. I would break the roots for that causes them to push downward where the nourishment lies. Try it. I speak from experience. I have no pet theory, but I know it pays to plow corn. And as to the value of the stalks I think it is not

too great to offset against the clover plowed up to make the corn.

The great interest in the discussion, together with the fact that the uses of corn were not at all considered, caused the whole matter to be put over to the next meeting, when Mr. SAMUEL A. CHAPMAN will speak of corn culture on the uplands of the county.

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#### CORN CULTURE.

SATURDAY EVENING, March 21, 1874.

The old habitués of the Club were agreeably surprised on entering the hall to find a large number of ladies already in possession, and entirely at ease, as though it were the most ordinary occurrence for them to attend a Club meeting to discuss corn culture. They had organized about a dozen clubs in various parts of the hall, and each was discussing in the most animated way its own separate subject, making the walls resound with the cheerful hum of business, when the President's gavel fell and the regular order was called.

Minutes read. No errors. Approved. Membership elections. Correspondence. Good of the institution.

Mr. GEORGE CONGDON arose with the good in every feature, and standing by the President's desk a moment without words, set expectancy wild. The old members then saw the gleam of delight in every corner of the hall, the ladies were beaming with pleasure, visitors' faces wore happy smiles. Mr. CONGDON began.

MR. PRESIDENT, LADIES AND GENTLEMEN

—There is a duty which I have been selected to perform to-night. These ladies have called on me to address you in their behalf. I told them I could see but one qualification which I possessed to fit me for the place, and that is—size. In that respect few could fill it better. The ladies of the Elmira Farmers' Club desire to present to you a testimonial of their regard, and they have selected as the proper token of their good will, this book, (displaying a costly

bible,)—the book of all books—the book which contains more true science than all others—the book from which you may gather knowledge of farming, in short the book which contains instruction suited to aid you in all the affairs of life. In behalf of these ladies I exhibit to you the gift, and I cannot in any other way, reveal to you their thoughts and impulses so well as I can read from their gift. I will present the twelfth chapter of Romans, a chapter which in itself is abundantly able to establish the authenticity and divinity of its origin, were all else destroyed. (Mr. Congdon read the entire chapter with occasional effective comments and proceeded.)

MR. PRESIDENT AND GENTLEMEN OF THE CLUB—I now present to you this book, the gift of the ladies of the club. Take it, study it, and profit by it. Learn to prize it for its teachings; it is the gift of love; it testifies the warm regard in which you are held by God's best gift to man—WOMAN.

In behalf of the Club President HOFFMAN said: This body will gladly accept the beautiful gift, and through me, offers for it, sincerest thanks. It is little to say that we thank you. Surprise prevents saying more. We are at a loss to know why we are thus honored; we have done naught to merit the high distinction. Perhaps it may be thought by some that it is a kind of magnanimity on our part that causes the opening of this hall for religious services every Sunday. It is not. It is for our own pleasure and profit. We rejoice that we can open a place where any may come to receive the ministrations of this book.

To you, Mr. Congdon, I say: You may assure the ladies whom you represent that their gift is exceedingly appropriate, and that we are made happy in receiving it. I cannot find the words to give expression to my feelings. Let me say only this, we thank the women for this beautiful token of their regard, and the sentiment proceeds from our inmost heart.

During his speech the President labored under great embarrassment. He, as well as the members generally, were completely surprised. And the rich token was presented

with so much solemnity and such evident religious emotion, that there was no escape for the President through the avenue of hilarious mirth. It was a show of hearts. Even Mr. Billings, who points more shafts of ridicule than all the other membership can, who is the chosen minister of Momus, became serious, and responding to a call on the chaplain, said:

This gift is truly an appropriate one, I have often thought it was strange, that all those shelves laden with treasures as they are, have never borne a copy of the Holy Bible. The need is met. We may now verify scriptural quotations given in debate. I as chaplain, may read to this club lessons of wisdom. We owe our thanks. I tender mine.

A vote of thanks was proposed by Mr. Carr in order to provide a formal entry on the minutes, when Mr. Billings arose again and said:

I am the bearer of a message from Gen. Wm. M. Gregg. Long ago he notified you that he would enrich our library by a rare old work when the proper time should arrive. The time has come, the gift is now in the hall. I bring you from Gen. Gregg all the volumes of the "Colonial History of the State of New York." It is long out of print and therefore increasing in value. At present but few complete copies can be found, and these advancing time makes rarer. Besides this valuable present Gen. Gregg has sent you other volumes of real worth. Here are three which contain the register of every regiment which left New York to serve in the late war, and the list of engagements in which each regiment took part. And still other volumes. They are yours.

MR. JOHN BRIDGMAN moved that as a token of appreciation of the gift, the Club have entered upon its record the name of Gen. Wm. H. Gregg as the first life member. With great enthusiasm the Club voted a unanimous AYE.

These pleasant ceremonies being concluded, President HOFFMAN called the regular order—the discussion of corn culture, put over from the last meeting, Mr. Samuel A. Chapman having been assigned to the opening, but he did not appear. The Secre-

tary, taking the stand, proceeded to vindicate the character of Chemung county agriculture, which he declared had been aspersed by discouraged farmers at the last meeting. The general average of corn production had been set too low. He could produce on his land twice as much per acre as a distinguished gentleman had estimated for the corn lands of the county. He had raised one hundred and fifty bushels of ears from an acre, and declared himself able to do it again, and he knew that there were farmers in the Hall who could do much better. Yet the average had been fixed by Mr. George S. McCann at thirty-five bushels shelled, or seventy bushels of ears, and in doing it the gentleman had made a show of liberality. A farmer tilling land worth five hundred dollars per acre had dared to assert that every average acre of corn in the county involved a direct loss of labor amounting to six dollars in value. The statement was absurd, and he hoped it would meet emphatic contradiction here. He would advise the gentleman to essay better culture or abandon the crop. His failures ought not to bring a stigma upon the county. He declared it just as easy to raise fifty bushels of shelled corn from an acre as to raise twenty bushels.

The PRESIDENT—I too felt that the county was maligned by the pitiful estimate of the gentleman, but when I consider how he treats the crop I am not surprised that he fails to get returns for his labor. You will remember he spoke of plowing five inches deep for this crop, and then in the late cultivation he would push the plow beneath this into the cold earth, cutting off the corn roots in their search for nourishment and offering the cold comfort of that unfitted soil. If that is his process I can conceive why he should fix the low limit. I can understand why he should harvest but twenty bushels to the acre and take the loss of six dollars worth of labor with it. But let him not charge such poverty on the county. Last week we obtained estimates from other gentlemen here. They were too modest to tell all their success. They hesitated to show the disparity between their production

and that of the principal speaker of the evening but later in conversation with a Southport farmer, who was present at the meeting, he told me that a common average used to be one hundred and twenty bushels of ears to the acre before so much of their land was devoted to tobacco. The attention to the latter crop is so close that the former has suffered neglect and the average is therefore reduced, but it is still one hundred bushels of ears.

Mr. S. A. CHAPMAN now appearing was called—In my experience there is no other crop which has proved so satisfactory to my wife, and I have always thought I could see profit in corn. I could hardly believe that one hundred bushels of shelled corn could be raised on an acre, until I heard the statement of a man noted for his careful regard of truth, who vouched for a field that gave a yield of one hundred and nine bushels to the acre; and another made oath to one hundred bushels as the average per acre for a field of corn raised by himself. Now I insist that those who occupy these fine, high priced and productive lands, do disgrace themselves in producing but twenty-five or thirty bushels per acre (if it be true that they get no more) and they should quit. I cannot agree with the Secretary that it is as easy to get fifty bushels to the acre as twenty, but it is certainly possible, and as there is no profit in the smaller yield, the larger should be attempted. And I cannot agree with the President in regard to the hurtful effects of cutting the roots by the plow in the later cultivation. My father used to cultivate the surface soil only at first, but in the later growth he pushed the plow down, and obtained benefits from such culture. I think if the corn could speak to us of the effects of such treatment, it would say: "Thanks, those roots of mine were creeping down to the cold earth where there is no light nor air, but now they are permitted to turn to warmth and light."

I prefer sod for corn and I would rather it be plowed five inches than six, and that the work be done in the fall. Let it lie undisturbed until the surface is well dried



and warmed by the spring, and then put on a heavy roller to bring all the furrows down to a smooth surface. After that, harrow it to a fine tilth, mark in checks shallow, and plant good sound seed, not less than three nor more than five kernels in a hill, covering rather less than over an inch, and spat the hill with the hoe. I think with the hill spatted to compact the loose earth the sprouts will come two days earlier than without. I would cut the crop as soon as I could see all the ears fairly glazing which is earlier than most farmers like to do it. It is said that such early cutting makes the ears hard to husk. Perhaps it is true, but there is loss in leaving it later, and besides this, very early cutting makes the crop of stalks far more valuable for feeding.

President HOFFMAN—Why do the roots want to be diverted from their natural direction?

Mr. CHAPMAN—There is more warmth and more available fertility in the upper soil. Cutting the roots by the plow is much like root pruning to an apple tree which is barren, it is thus made to fruit.

President HOFFMAN—Can you improve on nature? Is there not as much reason to trim off the leaves?

Mr. CHAPMAN—The leaves do not furnish the nourishment. The case is not analagous, but we do improve the fruiting of our orchards by trimming the limbs, cutting out twigs and leaves. We increase the size and excellence of the fruit by such judicious pruning.

President HOFFMAN—I have frequently seen portions of corn fields thus plowed, cutting the roots, and in warm, dry weather the leaves at once roll while other portions not plowed remain green and fresh. This idea of late deep plowing among the roots I consider an old foggy notion. Then is when there should be no plowing, but it will do to scratch the surface as much as you please.

Observing Col. Piollet of Bradford county, Pennsylvania, in the room the President called on him to speak, when seeing a strong

desire manifested for his appearance, he came forward and said: I confess to surprise that there should be prominent farmers in this beautiful valley of the Chemung who are so unsuccessful in the cultivation of corn. I came to Elmira to attend this session of your Club, supposing your location to be in the central portion of the city, where I might easily slip in and listen to your discussion, but I found I must be indebted to a friend who has kindly driven out with me to your hall. I have read your proceedings as reported in the city papers, with much interest, although as I have said, I have been surprised that the average production of corn should be put so low. If true, it is a great falling off from the earlier days. I suppose the real wealth of the country is largely drawn from the soil, and I am aware that it is the prevailing idea that not so much cultivation of the mind, and not so much education is necessary as in the professions. Yet it is necessary that the farmer should be carefully educated in all that pertains to his business. I am largely interested in land, in farming. I have considerable money invested and like others I desire to make it productive. So I have interests in all these discussions which tend to add to the sum of our knowledge. Now sir, there is among the professions a sense of honor which impels men to observe certain rules for the good of their profession. So it seems to me it is incumbent upon every farmer to observe this point of honor in his treatment of his soil—viz. to continue the preservation of the virgin properties in his fields. If he can not do that he should enter upon some other business. We know that years ago this valley did produce seventy-five or eighty bushels of shelled corn to the acre. I have seen many such fields here, and I have seen here twenty or thirty bushels of wheat and sixty or seventy bushels of oats as the average. Now if you are getting less, that point of honor has been violated. You have robbed the soil of some elements of fertility which you should have kept in full supply. Here you may obtain large supplies of manure because you have a great center of population from which to draw. You cannot offer a valid excuse

for diminished fertility, while we who have no such sources of supply might plead the want.

I apprehend the great fault in all our country is that we endeavor to produce crops without returning to the soil anything to recompense the draft. We do not think enough of wasted fertility. Now sir, one of the chief benefits derived from such institutions as this is, they awaken thought; they stimulate more enlightened effort. There is another movement at this moment in active progress—it is the work of an order which is designed to draw farmers more closely together to secure their intellectual and social advancement. It is a movement destined to accomplish great results. It is already widespread and powerful, and I venture to commend it to you as a powerful worker in the right direction. \*

I believe your methods with corn are not right. Forty years of experience has satisfied me that it is not economy to sacrifice your clover for corn. On the clay lands of these hills it may do to use a timothy 'sod for corn, but even then a better course can be found. Those lands are wet. Inverting the soil answers as drainage for a single year and so permits a growth of corn. But a better course is to drain those lands—under-drain them so that clover may flourish. Get out the full growth of clover and then use the land for wheat. I undertake to say your wheat stubble is the best place for corn. There is no other condition of your fields better suited to the application of coarse manure, and then if plowed in the following spring there is no worm to eat the corn. Now there are no natural—or strictly speaking—native grasses that are of any great value. Clover, timothy and all the list which we are accustomed to regard as our valuable grasses, are imported, and of all these, clover is most valuable.

It does not exhaust the soil. Its broad leaves stand forth and woo the ammonia from the passing atmosphere. It drinks in the wealth that floats over it. And then its long roots perforate the soil and leave there their mark. You know the great bulk that good soil permits above the surface—tons of fertilizing matter. Now if you examine the

roots you find as great value in an acre of them as you have in the top. You do not want to destroy this valuable plant until it has done all its work. Don't plow it in for corn when its office is not half performed. Now, some object to planting corn on a stubble, because, as they allege, it is so much more work to attend it. The fact is you can cultivate corn for less money on a wheat stubble than in almost any other situation. You can even raise wheat again if the land is kept in proper tilth and heart. And of course land which is strong enough to raise wheat after wheat, will do to raise corn after wheat, especially when manure intervenes, as I have shown it may with excellent results.

We must pay more attention to clover. It is our hope. The past year I cut about one hundred acres and I have wintered on the crop something over one hundred head of cattle. I am going to discard timothy and other grasses and place reliance on clover. Those cattle have been wintered entirely on clover and they are in fine condition. I would rather have clover for all neat stock, than timothy or any other grass. There has been a difficulty in the curing which has deterred many farmers from raising so much as they would with this difficulty removed. It is easy to cure clover by the use of hay caps. When it is in the proper condition to put up set it up in moderate cocks and put on the caps, which are simply square pieces of canvas with eyelets in the corners, through these insert pins to fasten them to the ground, and then under them let the clover sweat; it will not sweat again when that operation is over, and it is then safe to take in the barn.

Now to return to corn and the point of honor which I insist has been violated, if your corn production is so light as speakers at the last meeting alleged. The general average in the counties of Lancaster, York, Cumberland and Dauphin in Pennsylvania, has been kept quite up to the early standard because of this point of honor. The maintenance of the virgin properties of the soil has been duly observed. Those excellent farmers buy largely of western cattle to feed up

their products and return to the soil. That is the argument—put back on the soil something for what is taken away. We must make farming profitable. Men will never embark their capital in enterprises which will not promise fair returns. Now farming will pay if all its affairs are properly managed, and if not that is our fault.

Col. Piolet here pronounced a glowing eulogy on the Dutch farmers of Pennsylvania, and declared them the best agricultural teachers of the age. He gave narratives of their triumphs, beginning with the time of Wm. Penn, who first tried to use the English for the improvement of the state, but found them as averse to steady, honest work as they are now, and then he tried those Dutch who accomplished all he expected. He gave them the credit of establishing the first schools and serving always in the interest of the country. With them one hundred bushels of shelled corn to the acre, on lands occupied by several generations, is no extraordinary yield.

At the close of his remarks there was a great desire on the part of several gentlemen to speak, but it was judged better to put over the subject to next week, when clover will be considered in connection with corn.

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#### CLOVER.

SATURDAY EVENING, March 28, 1874.

A very full attendance proved the interest in a subject already discussed at two meetings—corn culture. Not so much desire was shown to settle upon any particular mode or modes of culture. The question leaned rather on the profits, a considerable number of the members inclining to the theory that every fair average field of corn in Chemung county is produced at a loss, if the farmer counts full market price for his labor, and seven per cent. interest on the value of his land. And these speakers believed also in a low average yield—thirty-five bushels per acre or less; while others insisted with much earnestness that the whole basis of argument was wrong—that the average production on well tilled fields would approach fifty bushels; that there is

no loss, and that the crop is one of the most reliable and useful.

Before entering upon the discussion the Club gave attention to correspondence. A long letter from Osceola, Pa., on fall plowing was referred to a committee to report at the next meeting. Several other letters of little general interest were duly considered.

Mr. JOHN D. DAVIS, of Reading Center, Schuylers county, appeared with a new seedling potato, which he originated and has raised five years. He represented it as early as the earliest, better in quality than most of the early varieties more productive and better as a late keeper. The specimens shown supported the last claim for there was no appearance of a sprout. To enable the Club to test the merits of the seedling, Mr. Davis very generously distributed specimens which members will plant, and report upon the products at the close of the season.

President HOFFMAN led off on corn culture with clover as a preparation, as follows: On much land capable of producing excellent crops of corn, clover is almost indispensable. On heavy soils it serves an excellent purpose to lighten them. We were interested and instructed at the last meeting by the remarks of Col. Piolet on clover, and if you will recall his words you will find something new to us. He advocated planting corn on wheat stubble, the clover going to the benefit of the wheat. I have given some thought to the plan, and there seems but one trouble, that is, in getting the land back to clover. The re-seeding must necessarily be done in the spring on barley, spring wheat or oats: Neither of the first two is regarded as very favorable to the seed and oats, to save the seeding well, must be thin. I believe so far as the corn is concerned the mode is good, the wheat stubble being a safe place for it, but there is the difficulty, I have suggested in getting back to clover. We all know that clover is the best plant we have for fertilizing the soil and it fallows, the more we have of it the better we are treating our lands. It makes all other crops good and it is the means, through which those of our friends who report low averages of corn,

should advance to a higher standard. If it be true as some have estimated that the average production of corn in the county, even on the corn lands, will not exceed thirty-five bushels per acre, then are those lands depreciated in value full fifty per cent.

If I understand correctly Col. Piollet's plan, to be turning clover under for wheat and then manuring the stubble for corn; it is good. Now may I inquire if this mode would not admit the raising of wheat again after the corn, thus permitting clover to be sown on the second wheat crop. On land suited to these crops, clover, wheat and corn, I think fertility might well be maintained. From my own experience I am prepared to say that grubs, cut worms and other pests do so diminish corn production that such a change as this promises better profits, if as reported, it brings exemption from the troubles. My present mode of farming does not admit a liberal use of clover, but if I had it to use I should certainly attempt such use of it. I have for years been trying to establish grass by top dressing my meadows, and I am reluctantly compelled to say that I have completely failed to realize my hopes. There may be some cause or causes which I have not discovered, and which if pointed out would still enable me to maintain grass, the very crop on which my profits depend, but present appearances indicate the necessity for a change of pasture. Shall I go back to clover, wheat, manure and corn? I confess that when I used to practice something like this course, depending on the profits of clover in the courses, I never failed of good crops. Corn with clover as a preparation always proved satisfactory in the yield.

Mr. JAMES McCANN—The very unfortunate speech by Geo. S. McCann, two weeks ago, in which he put the average of corn in this valley at thirty-five bushels per acre, has stimulated discussion, and brought forward other estimates much higher. Now I must add confirmation to his unpopular estimate. Take the whole yield of this valley, from Hornellsville to the Susquehanna, and in my judgment thirty-five bushels to the acre is a full average. The Secretary has told us of

one hundred and fifty bushels of ears which he raised on one acre, but he said nothing of the acres which he raised with a less yield. This is a common way of showing—a good yield is published and commented upon but the poor yields are not mentioned. I do not doubt his statement, but I may be permitted to say I never gathered so large a crop from any one acre.

Mr. BRIDGMAN—The Secretary spoke of one acre on which he had expended much labor, and I insisted that he should tell us of his other acres, but you will remember he had no report of them. I planted twenty-eight acres in one year, and thought my yield was fair, but I had only fifty-three loads of forty-two bushels each (2,226 bushels of ears, or almost precisely 80 bushels per acre.) I do not dispute his great yield but I object to it as tending to mislead.

President HOFFMAN—I do know that from thirty-three acres I gathered an average of one hundred and twenty bushels of ears per acre.

Mr. GEORGE S. McCANN—How much is our average production in the Secretary's judgment?

THE SECRETARY—Fifty bushels shelled corn to the acre if the land be suited to the crop, and proper attention be given to its culture. I make no estimate of the failures which result from lack of care or other causes, but I do insist that my estimate is fair whenever the crop is fairly treated.

Mr. G. S. McCANN—Not by a great deal, unless every hill be enriched. (An original process delineated by the Speaker). There is not one acre in ten that will produce it.—I know the President well or I should doubt his story. Col. Piollet said at the last meeting that he had seen many fields, years ago, in this valley, the yield of which was seventy-five bushels, or even eighty bushels to the acre. Now I am as old as he, and have had somewhat extended observation in this same valley, and I never saw such fields. Mr. Chapman gave the statement of a friend, that he had raised one hundred and nine bushels of shelled corn from an acre. What are such

statements but India rubber stories? Why that yield would almost cover the ground with ears! I tell you it is seldom that we get forty bushels to the acre, and I know of what I am speaking. All such statements as these which inflate the real average are pernicious in their tendencies. They mislead the public mind. They persuade men outside of our business that we are growing rich in raising corn, and they lead to bitter disappointment. They enter upon farming and prove that we have deceived them.

There are many who differ with me as to the value of corn stalks for fodder. I hold them as the Secretary does pumpkins—nearly worthless. Perhaps good for some purposes, but not of such value as to go far against the labor it costs to raise the crop. My estimated average of production takes in the planted fields, whether lost by worms, overrun by buckwheat or weeds, or going on to a full crop, and I set it down as a fixed fact that thirty-five bushels to the acre is a full average for this valley. We can raise now as great yields as we ever had. Our soil is not exhausted, but we have never had such crops as are spoken of by these loose orators.

And now as to the uses of corn, which in the heat of this discussion we have allowed to escape our notice, I have only this to say: There is one use which degrades mankind. All corn which goes to the distilleries is worse than wasted, and if my prayers avail aught this use will cease. I am in sympathy with the woman's temperance crusade—their object is good, and their labor is bringing forth some fruit; but in my judgment the full attainment will not be had until they shall pray for and have conferred upon them the right of suffrage. Then their fine perceptions will discover the way and their votes will effect the changes in our organizations by which not only this unholy traffic shall be suppressed, but other monstrous powers of wrong shall cease to oppress and degrade our race.

The sentiment was warmly applauded throughout the hall. The voice of the speaker, tremulous with emotion, grew husky and quite failed of utterance, as the noble aspiration arose from his heart and took form in words.

President HOFFMAN—Let me ask if the effect of statements given here of good yields of corn are likely to prove pernicious, what must be said of the effects of such estimates as were given to the public two weeks since by the last speaker, in which it was set down as fact that every acre of fair average corn involved a loss of six dollars in labor? If that be true does it not show to young men that farming brings starvation? Can such a loss be sustained year after year and the farmer keep out of the poor house? I hope that sober second thought will induce the gentleman to revise his figures. We do not lose money nor labor in raising corn. He has just told us that our land is as good as ever. Then has he not refuted his own assertion of loss? For in all these years he has been growing rich. Now I am willing to admit that we do not get as good crops of corn as we did once, and the true reason is, we do not work at it as we did years ago. We can not get the labor at such prices that we can afford to use as much of it as we want, and besides in the quality of labor there is a falling off. Now, if there has been a falling off in the average yield of corn I think it is our fault, and its correction falls upon us. I believe we can easily increase the average by ten or fifteen bushels to the acre, and at the same time increase our profit, for I insist we do find profit in raising corn. We do grow richer in farming. There is no claim to immense profits. We do not get sudden wealth, but we do make money in farming, even in corn. Mr. McCann has not lost six dollars on every acre of corn he has raised in the last thirty years. Wealth like his does not come from such losses. Let me assert it as a fixed fact, that in real, true, legitimate farming there is always profit, if not large profit. We can feel rich with less money than other kinds of business men must have. While there is no such thing as absolute independence in this world, the farmer comes nearer to it than the man engaged in any other pursuit.

Mr. G. S. McCANN—Was my estimate of the cost wrong?

President HOFFMAN—Perhaps not, though

it was very liberal. Thirty dollars will do a great deal on an acre of corn.

Mr. McCANN—Well, that estimate embraced interest on the land at one hundred and fifty dollars per acre. You see, then, if I lose a little in labor, I get full interest on the investment. I can as well afford to lose a little labor on corn in getting interest on my investment as to lose labor in collecting the interest on any other investment.

President HOFFMAN—Twenty years ago I had a small farm located away from supplies of manure, and I undertook to bring it up by the use of clover and plaster and by bringing stuff raised on other land, on it to feed out. That land cost me for everything justly chargeable to the corn crop, just thirteen dollars to the acre, not counting interest on the land. The price of labor now is much greater, it is true, and thus the cost would be increased, but as to interest I think an investment so safe as land and constantly appreciating should not be required to pay seven per cent. Three and a half should be ample interest.

Mr. McCANN—Money brings seven.

President HOFFMAN—True; and you can sell your land for money, but your money will not of itself increase in value while your land does.

Mr. S. M. CARR—If this Club should offer one dollar a bushel for all the crops of corn raised in Chemung Valley, which exceed fifty bushels of shelled corn per acre, a vast sum of money would be required to make payment, I think; and I think Mr. McCann is wrong also in his estimate of the value of corn stalks. I have had much experience in their use, and I may say that an acre which has yielded a full crop of ears will give stalks of as much value as an average acre of timothy meadow. Even if one proposes to sell, the stalks will bring as much as the hay.

Mr. W. S. CARR—I have had a brief experience in raising corn, and I must say that the Secretary's estimate of yield strikes me as fair under the conditions he names. I let a piece—about one and a third acres—for corn, and from my half I sold ninety bushels

of ears. Another piece, upland, eight acres in extent, gave three hundred and forty bushels, worked by a tenant. The next year I planted it and failed completely. The smaller piece I planted the next year and obtained a crop I judged quite as good as the first.

Mr. M. H. THURSTON inquired about the yield on the piece reported by the Secretary, the season following. He knew from personal observation that the rich old sod turned back to light and warmth, sent out a million shoots of weeds, which usurped the place of every useful seed; and he knew equally well those weeds met destruction at the Secretary's hands regardless of the barley crop which was attempted on the ground.

Mr. FRANK McCONNELL—All are aware that the man who is the most fluent speaker, or he who writes the best article, is not therefore to be considered the best farmer. (Delphic-Secretary). The estimate of average yield of corn, as made by Mr. George S. McCann, is correct. I have known him since we were school boys, and in all that time he has been very apt to be correct in all his estimates. His present affairs prove that he is a very correct man. He is very sure in every venture to count the cost, and that being done he decides his course, and if you have been at all careful to observe it leads out to profit every time. In fact I may say with a somewhat thorough knowledge of his character, that he is the best counter I ever knew. Now if he had made corn a specialty he would have gone to the poor house no doubt, but he knew better. He made it rather a pasture, and it has not made him very poor.

Now, it is easy to speculate and theorize on these matters wherein all our hopes lie, but we want something better than mere speculations and theories. We want facts—solid facts. These are vital matters with us. We really do want to know what are the results of our labors in every other crop as well as corn. We want to know to what uses our soils are best adapted, and then conform our practice to that knowledge. If we have not the faculty to find out and apply such knowledge we have mistaken our vocations, and

we shall do well to seek some other business less dependent upon conditions of which we are ignorant. The real fact is, farming is a science. A man may talk learnedly of crops and betray only his ignorance. Things happen here which look strange to the thoughtful. Only the last meeting was signalized by the speech of a gentleman from abroad, who dilated upon the virgin properties of the soil and the ammonia; and when I asked him what those virgin properties produced he could not answer me. On the same occasion my friend McCann was attacked for the utterance of truth, and the attack has been kept up. He was right, as I shall proceed to show. I have given the matter some thought and I am now quite ready to defend his statements. We are trying to reach the average.

In my own experience there is something by which to judge of the average yield of corn. My land is good, as all will admit. Much of it is annually let to be used for corn, and the share which I receive indicates the entire correctness of his statements. That more might be produced I do not deny. I know it might, but we are to talk of these things as they are. I spoke here on this floor at a recent meeting of sixty bushels of barley raised on one acre, and there were men who showed a disposition to call me to account for the expression of truth. That acre was specially fitted. If I had averaged the whole field I could not have made so good a showing. So in the case of the Secretary's acre of corn I have no doubt of the possibility, but let us get at a just average.

Mr. McConnell proceeded to the analysis of soils, the question being too abstruse to have a general interest. His remarks were continued at great length, but far beyond the "average" of comprehension."

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SATURDAY EVENING, April 4, 1874.

With the broad old-fashioned style of hospitality the Corning Farmers' Club had entertained a large delegation of this body during the day, releasing it only in season

for the regular meeting. The affair was the theme for an hour's talk before the regular order. Those who did not go to Corning were exceedingly curious to know what was done there, and they were duly informed with words and manner that promoted infinite regrets for pleasures missed on the part of the inquirers.

President HOFFMAN hurried the order of business after the start was made. Correspondence was passed almost without comment. The following from a distant member of the Club was approved in a few remarks, and will be the subject of comment no doubt at further meetings:

"It is inconvenient for me to attend your meetings, but I read with much interest the reports of your discussions, and I have been especially interested in the discussions of the corn crop. We should give Mr. McCann thanks for bringing forth the beacon of light, figures. They are the means to show us our success or failures in agriculture. His critic pointed out poor farming, high priced manure and low value of stalks but there was the fact left that Mr. McCann gained but three per cent. on capital invested. Figures show, too, that he would have gained seven per cent on the same capital with corn at eighty-six cents per bushel instead of seventy. Whether Mr. McCann's estimates are correct or not, I believe actual facts, told in figures, will show that the area of corn in Chemung county, averaging one hundred bushels of ears to the acre, is small. And this county will compare favorably with other counties is the State.

Colonel Piollet comes to our rescue from Pennsylvania and gives us his opinion that we should do better or else our soil has declined in fertility. The figures bring out the manure question and in that connection he tells us of the importance of clover—how from the product of one hundred acres in clover he wintered well one hundred head of cattle which is a good showing, but he failed to show us the per centage of profit on the capital invested. This, too, is the greatest in importance, of all the aspects of the ques-

tion. The cost, manner of producing, and the actual per centage of gain or loss in the capital, all these we must know, and then we can adopt the paying methods and reject the losing ones. Until we get such precise knowledge we shall spend much time in the vain effort to make agriculture a paying business.

All other occupations know the cost and the per cent. to be realized on all of their articles of sale. But the farmer takes his produce to market, and strange as it may seem, shows his stupidity and ignorance in not knowing the cost of scarcely an article produced.

Members of the Club, if on Monday you should take a load of grain, hay, vegetables or butter to the city for sale, could you state the cost and per cent. profit you expect to realize? If not, such things ought not so to be. Is this intelligence? Is it progression? Is this protecting our own interests and keeping pace with other occupations?

Does the merchant or grocer know the cost of articles of sale? We all know it does not take long to learn this, if we make a purchase. Is our occupation any less deserving of care than others? Using figures has a tendency to make us more thorough in our business habits and keep us from spending much time in changing to various kinds of labor. Some may claim it is impracticable. Is it any more impracticable than to buffet against the tide of high prices of other occupations, and not know our own position or its proper surroundings? Would it not have a strong influence toward regulating the price of land, labor and produce, and might it not help solve the question why so many leave the farm for other occupations.

I wish to give one illustration of the use of figures. The dairy interest being considered as profitable as any in the county, I will take an illustration from dairying. Take a farm of 120 acres, worth \$100 per acre, stocked with twenty cows, the cows to produce 200 pounds butter each. The capital invested in the farm is \$12,000; value of

cows, \$1,000—total money invested, \$13,000; quantity of butter produced, 4,000 pounds, and deducting one-half for labor, we have 2,000 pounds butter as an offset against the interest of \$13,000, which is \$910, which brings the *actual* cost of the butter at 45½ cents per pound by allowing the refuse milk as an offset against taxes, insurance, &c. Now, if we could have 12 per cent, for capital invested, the butter would bring 78 cents per pound, and farmers could make their occupation as honorable and could afford to pay as much for help behind the plow as the merchant can for his behind the counter. Not that I would use figures to discourage agriculture, but to improve it and place it in its true light, use figures to awaken thought, create inquiry, extend observation, and stimulate to action that they might prove a blessing to agriculture and a benefit to the true tillers of the soil; but to be of any practical utility to our club a committee of three should be appointed on each main agricultural production to note, during the coming season, the actual cost of producing the crop, the amount produced, and the per cent. profit or loss realized on each, and I doubt not the reports would make the meetings of next winter instructive and profitable, as we would have actual facts instead of estimates, and we could tell intelligently what the price of our productions should be."

JUSTUS M. WORKS, of Osceola, Tioga county, Pa., writes :

GENTLEMEN :—There are many solid and substantial reasons favoring the practice of late fall plowing. I know of no crops or soils excepting sandy soils, which are not improved by fall plowing, which we would recommend to be performed as late in the season as it can be, in order to prevent vegetation starting anew. For thus a larger amount of vegetable matter is turned under to be incorporated in the soil, than when the operation is delayed until spring. And vast numbers of insects are turned up to perish by the cold, and the seeds of useless and troublesome plants or weeds, that have germinated in early autumn, are also disturbed



and destroyed. But there are other advantages to be derived from plowing in the fall. The work is usually performed at a time when the farmer or his workmen have most opportunity for it, when the hurry of the season is over, and the teams are in good condition. And in the spring does not the farmer feel happy in the reflection that by timely forecast and industry he has a very necessary work performed in advance of the seasons. He is ready to avail himself of the earliest favorable weather for putting in the seed, and is thus enabled to keep up in the routine of farming operations with the forwardness of the season. He is certainly much better prepared in this respect than could possibly be the case if his plowing had been deferred until spring, when the uncertainty of the weather adds greatly to the pressure of work on hand. Earthy and mineral ingredients of the soil assist, very materially, in its pulverization, and prepare it for more thorough and effective tillage. The subsoil rendered more loose and pulverulent, will absorb the ammonia of snow, which chemistry proves to contain a greater amount, than the same amount of rain water has. Perhaps it will not be out of place here to remark, that most soils are improved by plowing a little deeper than has previously been done, in order to bring up a new stratum for the new disintegrating and decomposing influences of winter and the elements. I have thus hastily glanced at some of the advantages that necessarily results from fall, or late fall plowing; the subject is far from being exhausted, and much yet remains to be added in favor of this practice. The subject is one of importance and will abundantly repay every farmer who will give it the consideration it merits. For loose and sandy soils fall plowing cannot in any way be recommended, unless the subsoil be of a heavy or clayey character. In such instances my judgment is, that fall plowing will prove beneficial, rather than otherwise, as the changes of the weather in winter will promote a more thorough mingling of the different soils, a portion of the subsoil being turned up with the surface, hence the labor required in the spring preparation for sowing or planting will be lessened.

But when the light drifting soil extends to a greater depth than the plow can reach, the treatment must be very different from that recommended for heavy clay. The latter requires mellowing and loosening—the former should be compacted.

Mr. BRIDGMAN—The letter contains many sensible ideas. I expected to make an extended report upon the whole subject of which it treats, the matter having been placed in charge of a committee of which I am chairman, but the week has brought too many other duties. With further time my committee may yet be able to say something of the matter.

President HOFFMAN—The committee can take all the time it pleases. Meantime the letter is well able to appear without comment.

I am in want. Who can tell me what kind of grain drill to buy? I want one to sow grass seed as well as grain, and I ask, should the seeder be attached in the front or rear? My judgment is that when the seed drops in front of the hoes it must be covered too deep—at least, much of it—and of course wasted. It may be argued that if dropped in the rear some must fall on the ridges and so dry out and fail.

Mr. FLETCHER CARR—I seeded with the Bickford and Hoffman drill last spring—the grass seeder in the rear—and the catch was very fine. Many of the neighbors, whose attention was attracted by its appearance, remarked that the work was very well done, and yet during the seeding a strong wind was blowing. It made, however, no clunk or spots in the work.

Several other members agreed with Mr. Carr that the seeding attachment in the rear generally proves more satisfactory.

A patent wire fence was recommended by a circular and diagrams. Its owner and inventor, Mr. Rappleye, of Farmer Village, Seneca county, N. Y., has high endorsements, but not being present, the matter was referred to the members, with instruc-

tions from the President each to report after his investigation.

During the proceedings several gentlemen entered with a corn sheller, patented lately—or to be particular—by John W. Ricker May 3, 1870, and now first offered to farmers of New York State by a company of capitalists in Elmira, who have the sheller manufactured by the La France Manufacturing Company, Elmira, N. Y., to whom orders may be given, or to the agent of the owners, Chauncey M. Beadle, hardware dealer, 130 Water street. The sheller was exhibited to the Club by John N. Hill, of East Concord, N. H., who is the general agent for the United States. Of course a thorough test was made in the actual work of shelling damp and dry, large and small ears, with rapid and with slow motion. The President appointed a committee to take charge of the entire operation, and it was composed of the most careful men in the body—a fact which needs no proof to those who observe the names and have personal acquaintance with the members. Their report is appended, and it is proper to add, was warmly endorsed by all members present.

“We have given the Ricker corn sheller a very careful inspection, and are now able to pronounce its mechanism very excellent with an appearance that indicates great durability. We have required performance with varying speed and such changes of circumstances as we could devise to increase the difficulty of the work, one object being to make the test as severe as possible. We find its capacity for work about one shelled bushel in five minutes of time, two men being required to work it; or rather one man to furnish the power and one to put in the ears. Any boy big enough to handle the ears could take the place of one man. We mention this capacity as the fair average. The machine actually did shell in our presence two bushels of ears from the basket in a little less than three minutes. A noticeable feature of the work is that every cob is completely divested of all its grain before it leaves the machine. This is effected with absolute certainty even though th

largest ears be alternated with the smallest and although they be thrust in butts or tips foremost. The shelling is actually perfect in either case. This is secured by a process of double shelling before the cob is finally ejected unbroken, but stripped entirely. The cleaning is performed at the same time and the winnowed grain delivered in a receptacle, fit for market. With common rate of speed there is no scattering whatever, but we found it possible by excessive motion to carry scattering kernels out with the cobs, which are carried completely out of the way by an automatic movement provided by the sheller. The work is easy and the machine itself easily moved—it having been brought into the Hall by two men, a fact which may be regarded as indicating what could easily be done in practical work requiring changes from crib to crib. With a desire to point out defects if they exist, as plainly and fully as we have merits, we are obliged to say with the present showing, that we can only commend.”

CHARLES HELLER,  
Chairman.

GEO. S. McCANN,  
SAMUEL M. CARR,  
JOHN BRIDGMAN,  
WILLIAM S. CARR.

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SATURDAY EVENING, April 11, 1874.

The night was bitterly cold, with a piercing north wind to cool the zeal of any who ventured to test the weather with a view to attend the Club if not too cold. It proved too cold for all but the boldest—rather the bravest. There were farmers from Southport, five miles or more distant, who had faced the north all the way, and now felicitated themselves that compensation would be had in propulsion homeward—a pleasure they seemed willing to hold in prospect, for they were plainly willing not to “go home till morning.” Early in the evening light wagers were laid that less than twenty members would appear at the meeting, but the guess was wild. Twenty, thirty, and then

scattering others, until the seats contained about forty, which is doubtless the smallest meeting of the season.

Mr. GEORGE S. McCANN placed on the President's desk a jelly glass of timothy seed, much of which was stripped of its outer hull, presenting the appearance which is usually denominated skinless, and is observed so often in Western seed. He asked, "Will it grow?" This same question, at one of the winter meetings, brought out a diversity of views, the most careful farmers declaring in favor of sound seed encased in hulls.

This time the President called members to the desk to make critical examination. In all respects the seed was fine, except the skinless portion, which doubtless had appeared plump as the other before its coat was stripped. The point to consider was the vitality. If that was impaired, much of the seed offered in market is worthless.

Mr. BRIDGEMAN—I tried some seed of this character by testing counted seeds in a pan of earth. They failed, as I supposed, from injury in the skinning process. The experiment was made years ago, and my recollection is not distinct in the details, however it has led me to prefer full seed.

But lately I met Mr. Ferguson who, having noticed the reported remarks on this subject at a previous meeting, wisely made the test for himself, and he told me there was no appreciable difference in the time of germination, or the vigor of the shoots from the hulled and the whole seeds. So I conclude my experiments were not conclusive—the seed might have been poor from other causes.

Mr. BANDFIELD—A few years ago I sowed some in a field where I lacked plump seed to finish all. I got some which had this skinless character, and sowed it by itself. It grew just as well as the best.

Mr. VALENTINE STROUSE—Yes, if only the hull is off there is no hurt to the seed.

The President taking some of the whole

seed in his hand gave it a slight rubbing when it was all divested of the outer coat. He attributed it to over ripeness, and expressed the opinion that it would be quite safe to use such seed if no other fault appeared.

Mr. CARM COMPTON—I tried some of these seeds, sprinkled on a pan of earth about twelve days ago, and the result is, these seeds with the outer skin off grew just as quick and apparently just as strong as the others. I could discern no difference in the plants from the two kinds, and they are now about three-fourth of an inch high.

This was justly regarded as a practical settlement of the whole question.

The President called again for the experience of those who had used seeding attachments to grain drills, whether the work was better in the rear or front of the hoes.

Mr. V. STROUSE—I should prefer hand-sowing to either. I use a drill, but I did not care in buying to get one with a grass seed attachment. They make too much trouble. If I were to use one for grass seed, however, I should certainly have it drop the seed behind the hoes, because when dropped in front and followed by the hoes, there must be great loss by covering too deep. If seed is dropped on loose fresh earth it needs no covering. If it is dragged at all, a light brush is enough. There is always in the seeding attachment risk of getting the seed spread too thick or too thin or not at all, making constant care necessary. So I prefer the old-fashioned hand sowing.

President HOFFMAN—And yet there are advantages in the seeding machines. Certainly, so far as labor is concerned, there is relief. And there is another advantage in having the grass seed dropped at the very moment when the ground is freshly stirred. It is difficult now-a-days to find men skilled in sowing seed, so if we can get that work off by the use of a machine it is much like lightening our own burden, for as things go we have to do this ourselves if we are to feel at all sure of having it well done. Then

again, supposing the seeder to distribute evenly, that is a great advantage. As to dropping the seed before the hoes, I judge it would be much like dragging the seed with a heavy drag, and that has never succeeded well in my practice.

MR. GEO. S. McCANN—How much grass seed would you use to the acre?

PRESIDENT HOFFMAN—Not over twelve quarts of timothy and clover, half and half, on land suited to the seed. With every condition exactly right, much less would do. With perfect fitting of the seed bed, and the seed itself entirely sound, I have no doubt that six quarts would be an ample supply. I made an estimate once of the seeds in four quarts of timothy, by counting the contents of a thimble, and then using the thimble to dip a pint cup full, multiplying the number of times by the number of seeds. I found the number of seeds in four quarts was sufficient to allow one and a half seeds to every square inch in an acre. Of course this supposes even distribution: Now one plant to the square inch is quite sufficient, so one third of this allowance would be thrown away if all the conditions were perfect. Clover being of larger bulk, more seed is required. I am in favor of thick seeding. The ground must be occupied by the grasses if good crops are to be produced, but there is more depending on the fitness of the soil for the seed than upon the amount sown. It has often happened that light seeding has produced very full crops of grass.

MR. BANDFIELD—My experience has been that a fine quality of hay is produced by thick seeding. I would never use less than twelve quarts to the acre, clover and timothy mixed.

PRESIDENT HOFFMAN—It depends on your ground, the evenness of distribution and the soundness of the seed. All these just right, and as I have shown you, four quarts to the acre is thick seeding. With the conditions all perfect three quarts would be ample.—Then it would seem we are annually throwing away vast amounts of seed. We do it because we fail to make proper preparation.

As I have just declared, I am in favor of thick seeding to grass, and in view of the imperfect preparation so commonly given, it is better to sow twelve quarts than four, even though half of it be wasted. Too thick seeding regulates itself at last.

MR. BANDFIELD—I have sowed six, eight, ten, twelve, and sixteen quarts to the acre, and on new land, (with which I have had much experience,) the heaviest seeding has produced the best hay and the heaviest crops. Thin seeding usually results in coarse timothy stalks and light crops.

GEO. S. McCANN—A great fault is we don't take pains enough to sow on fresh earth. Seed spread on dry, hard soil is wasted.

MR. BANDFIELD—Yes. For that reason it requires more seed on winter wheat than on a spring crop, as, for instance, oats, with the ground freshly stirred.

PRESIDENT HOFFMAN—Which would you prefer for seeding, wheat or oats?

MR. BANDFIELD—Oats, for the reason I have given.

MR. BILLINGS—Here are samples of the two near the Hall. The seed was sown on the same day, and that put on the wheat in the same field with the oats is the better now and has been from the start.

PRESIDENT HOFFMAN—So in my experience, the catch has always been better on wheat.

MR. McCANN—Last year I seeded a field and although the grass made a good start, from some cause it died. Would it do to sow the same ground this spring.

MR. BANDFIELD—I should try it. Sow it now and the chances will be in favor of a good catch.

THE SECRETARY—Have any members tried sowing red top with timothy.

MR. BRIDGMAN—Some years ago I sent to New York and bought red top which I sowed

in liberal quantity on a field, expecting good results, but the seed was all wasted. Scarcely any red top appeared in the meadow, and in after years it did not come.

Mr. ARMSTRONG—I made the experiment, but having to pay an unreasonable price for the seed I put on but a small amount, about three bushels on nine acres, whereas, there should have been a bushel to the acre. It should cost not more than two dollars a bushel, but I had to pay five dollars and go to Bath for it. I sowed it five years ago and the first season very little red top appeared. The next it showed more and has continued every year to improve. The seed being very light, the casts did not extend across the lands, as it was last year plainly noticeable in the fields in streaks as I spread the seed proving that the growth of red top is from that seed rather than any accidental cause.

President HOFFMAN—Four years ago I sowed six bushels on six acres and very little result has appeared. On the same piece I sowed two bushels of timothy seed, two of blue grass, and one and a half of clover seed the ground being in faultless condition having had a whole season of thorough preparation for grass alone. The first crop was cut on the occasion of the great trial of mowers on my farm in 1870, and many of you remember that the grass on that piece was very thick. In all the crops since I doubt if I have gathered more than five hundred pounds of red top and a thousand pounds of blue grass, the rest being all timothy. The first crop seemed to come entirely from the ten and two-thirds quarts of timothy seed sown to the acre, and it was too thick to produce hay of good quality. The next year the quality was better. I cannot say what became of the red top. The land had before produced an abundant spontaneous growth.

Mr. ARMSTRONG—I think I heard the President a little while ago declare four quarts of timothy seed an abundant allowance to the acre, with the only conditions

that the seed be perfect, the seed bed perfect, and the distribution even.

President—Yes. And I am telling you now how I threw away a great amount of seed. Everything but the timothy was thrown away, and the timothy was too thick. Last year the clover made a feeble struggle, but with no profitable result. I still say that with the perfect fitting and even distribution four quarts, or even three quarts of good timothy seed are enough to an acre. It is the nature of timothy to spread by stooling, and it should be thin enough to permit such extension for thus the plants become vigorous. Sow under good conditions and wait for the stooling of the next Spring and you will get most substantial meadow. Timothy is never perfect until the roots have passed through a winter. If the plants are too thick growth is hampered. I am satisfied that one half the seed we sow is thrown away because of imperfection in the seed itself or the lack of thorough preparation.

I hope I shall not be understood to recommend but three quarts of timothy to the acre. Careless farmers would do better with twelve quarts, because grass is better too thick than too thin. The former trouble is not often seen, and the cure is soon worked. One great lack is in the preparation of the seed bed. If that be not perfect, it is wrong to expect complete success to result from any amount of seed. And I repeat if that be perfect a small allowance of seed is even better than a great one.

At this juncture Mr. Jud Griswold appeared with a request for a committee to examine the operation of a potato planter, mounted on wheels to be operated by a horse. The President asked that the machine be brought in, which was done, when David T. Billings, M. H. Thurston and David Conklin were appointed a committee to make examination which they made as thoroughly as possible, failing only to make the furrow and cover the seed, the appliances for which are so much like others in common use, which work satisfactorily, that it is safe to conclude no failure is likely to ap-

pear in this matter. After very careful examination they made the following report:

"We have carefully inspected the operation of True's potato planter, exhibited by Mr. Jud Griswold, with such trial as the occasion permitted and so far as we can judge, it promises well. There is absolute precision in the cutting and dropping of the seed which is put in furrows at regular intervals of one and a half feet or three feet as desired. The heaviest and most disagreeable part of the labor of planting is thus performed by a horse with a man to drive and guide the machine, which would seem quite as easy as to hold a plow. Of course the entire operation of planting including cutting, dropping, marking and covering is effected as the machine moves forward, thus rendering the planting as rapid as ordinary marking, except the difference caused by the greater draft of the machine, and the time used by the manager in replenishing the seed box.

We tested thoroughly the cutting and dropping, the only portions of actual work which we could subject to actual work and with these operations we now report ourselves quite satisfied, while we add, that the devices for plowing the furrow and covering the seed are almost identical with others in common use, and which are proved by years of trial to be efficient and reliable. We therefore conclude that the machine as a whole is likely to prove a saver of labor, as well as the means of improving the character of the work.

We have given due attention to the mechanical construction which we do not hesitate to declare in the machine exhibited, of a durable character.

We have not been able to judge of the attachment for dropping fertilizers in with the seed—no test having been made.

(Signed,)      DAVID T. BILLINGS,  
    Chairman,  
    M. H. THURSTON,  
    DAVID CONKLIN.

## CARE OF TREES, FORESTS AND ORCHARDS.

SATURDAY EVENING, April 13, 1874.

The preliminary business was hastened forward without a pause long enough to sell a horse, or buy a cow. Strangely enough these animals which have been regularly offered at the Club for the last six weeks gave no response to the call at this meeting. Not one was offered—nor was there any inquiry. Very many accommodations are made in the few minutes devoted to wants. A farmer who needs seed oats, or wheat, or clover, or spring pigs states his want and finds a supply as soon as his words are spoken.

This meeting was very well attended although there was nothing particularly inspiring in the selected theme. It was, however, timely. The planting and care of trees are considered by the Club every year. There are some of the members who have made the subject a life study—there is one at least so expert that he will lift a pine out of its natural bed and re-set where he desires it to grow almost with certain success.

Before getting to the trees B. C. STYLES, an Owego friend, advised the President by letter where to drop grass seed thus:

Noticing in the Elmira ADVERTISER of April 14th, some remarks made by different gentlemen at your Farmers' Club meeting, in regard to sowing grass seed, and their opinion in regard to the best place to have and use the grass seeder on a grain drill.—And I, wishing to give my experience to my neighbors, take the liberty of writing you at this time; and would say, I have a grain drill with grass seeder, and it is arranged so that the seeder can be used in front or rear of the hoes, and changed with very little trouble. I have tested it thoroughly and my experience has caused me to change my mind in regard to the best place to have and use the grass seeder on a grain drill. My first impressions were that it should be in rear of the hoes to prevent covering the seed too deep; but I now use mine in front of the hoes, for the following reasons:

The seed is scattered evenly over the ground in front of the hoes, and as the hoes come along they open up their furrows, the grain is deposited, and the soil rolls back and covers the grain, leaving the grass seed just mixed with the surface soil; and if there is any one place the seed is thinner than another, it is where the hoe ran along (where the grain comes up.) But reverse it. Put the seeder on behind the hoes, and I find when the hoes have passed over the ground, that the drill where the grain is at that time is the lowest place on the surface, and that the seed sown after the hoes has a tendency to work into the holes or lowest places on the surface, and that the first shower, land roller, or whatever levels the surface, has a tendency to carry the seed down with the soil, and the result of it all is, I have a portion of the grass seed covered deeper than any I would have if I used the seeder in front of the hoes. And the worst of it all is, I find a thick streak of the grass seed in the drill where the grass grows, where I do not like to have it.

The letter excited but little comment, although it furnished plausible reasons in support of the writer's theory. The general conclusion among Club members, who have used the 'grass seeders attached to grain drills so far as it has found expression in the Club, has been in favor of rear distribution, and there are not wanting good farmers who prefer the old fashioned hand sowing over all the devices offered. But considering the winds which prevail during the spring time, when grass seed should be sown, these seeders are certainly desirable, and it must be left to each farmer to decide for himself whether he will have the distribution in the front or rear of the hoes, and as a fair means of deciding the respective merits of the two methods, the drill used by Mr. Stiles, which performs either requirement, is commended to the inquiring mind.

On the planting and management of trees, Mr. Fletcher Carr read the following paper:

When we take into consideration the many different kinds of fruit and fruit trees, their culture and the care we must bestow upon

them from the time we plant the seed until we gather the fruit, my brief effort must fail of full treatment.

Let us look at the average growth of timber. From the results, observations and testimony of reliable men the following table is shown to be the average growth of forest trees in twelve years: White maple, one foot in diameter and twenty in height; white willow, one and one-half feet in diameter and forty in height; white ash, ten inches in diameter and twenty in height; yellow willow, one and one-half in diameter and forty in height; Lombardy poplar, ten inches in diameter and forty in height; chestnut, ten inches in diameter and twenty feet in height; black walnut and butternut, ten inches in diameter and twenty feet in height; while the different kinds of evergreens will make an average growth of from eighteen to twenty inches in height annually. In this section of the country the forest tree is often neglected. Riding through the country for miles in succession you will notice the same kind of tree planted along the highways. Why not for a certain distance plant elm or poplar, then maple or chestnut? Do not plant your shade trees all of one kind.

And again I would ask you if it would not richly repay us to plant trees on the boundaries of our farms? would it not be a beautiful sight to see a row of thrifty walnut or chestnut extending around the boundaries of our farms. Not only would it beautify them, but it would shelter our fields and serve as a wind break for them. On the farm which I now occupy there is a belt of trees extending north and south nearly in the center of the farm; and I have noticed that while the snow would be entirely blown off the other fields, the land near by these trees would be covered with snow. One of the most successful peach growers in Illinois attributes his success to the fact that he has a thick row of trees planted around his orchards, thus protecting them from the cold blasting winds. But in planting forest trees the Western States are far ahead of us. The state of Nebraska has set apart a day in April which is called "Arbour

Day," giving liberal premiums for the largest number of trees planted, while nearly all of the State and County Agricultural Societies give large premiums for the same object. And I hope the time is not far distant when this club shall set apart a day and make of it a general holiday for tree planting and give premiums not for the largest number of trees planted, but to the one whose trees shall show the best care and cultivation.

In planting fruit trees you all have your plans and methods; you also differ on pruning; some of you would have your trees pruned high, others battle for a low pruned tree. In selecting your trees out of the multitude of varieties, plant some of the old tried ones, such as the Rhode Island greening, red astrachan, Baldwin, Tolman sweet, and a few of the early ones. Then after you have planted your orchard, draw a map of it, and place the name of each tree correctly in its place; put it into a common frame, hang it upon the wall, and you will have something which my experience has proven to be very useful. What tree in its natural state is more ungainly than the apple tree? Broad, low, with limbs sprawling in every direction. By its side the pear and cherry tower in gracefulness, and the peach with its light spreading branches has a grace that is much more attractive, while the domesticated elm and maple leave it far behind in its misshapen form. But when rounded out in bloom all its rivals fade before its charms. Its very shape increases its beauty. But we should remember that this flowering is only for fruiting. The blossoms are not for enchantment. They are for future use. They mean apples—the red-cheeked apples follow the red-checked blossoms. Even so teaching us a lesson, that beauty is naught without goodness. Plant trees. Not only will you be richly repaid in your own life time, but your children who follow you, will eat of the fruit of your labor and rise up and call you blessed. Rural adornment also in its simplest form comes within the reach of us all. It is possible to every farmer, in every possibility of landscape to effect by the grouping of trees, the massing

or cutting away of foliage here and there, improvement. Such adornment requires no great expenditure of capital; but it demands cultured taste and some time. Good buildings are requisite certainly but money shows better when invested in ornamental surroundings. Trees, flowers and shrubs call for popular admiration; they speak eloquently to every cultured soul. They have a language that all may understand. It is their mission to uplift and elevate the commonest lives.

We plant the little seed in the earth and watch the shoot with much care and solicitude. The years roll by, and it has grown to be a large, thrifty, beautiful tree; and as we rest under the shade of its wide spreading branches and see the fruit of our labor, there is something ennobling about it, something that lifts our thoughts up out of the every day cares of life and our hearts are as happy as the bird that carols his song among its branches. Let us leave the city with its cramped up walls of brick and mortar, made by the hand of man, and walk in the field of God's planting where there is always room. Let us wander into the dim grand old aisles of the forest. Look you upon that grand old oak, the monarch of the forest, with its moss grown trunk. It has bravely stood when the storms of winter have wrapped its limbs in a white mantle, and where the pitiless rays of the noonday sun of summer have beaten down upon it, and its parched leaves have made mute appeals for water. When the fierce tornado passed over its top, it bowed its head to the fury of the blast only to lift it again with fresh courage and strength. Year after year the happy songsters have returned to build their nests and rear their young in its friendly branches. Is there one of us who can look upon one of these grand old monarchs of the forest, without having within his heart a feeling of reverence for Him who created these blessings for our enjoyment and use? When I shall pass away from this life, I would ask for no sculptured work of art or tablet of stone—no monument of costly material to be placed over my grave, but rather let me quietly rest under the shadow of a



tree of my own planting, where the birds can sing their glad songs to Him who first gave them spring, and the weary stranger may find grateful rest under the shade of its overhanging branches.

MR. BILLINGS—I notice one error—the red apples do not follow the red blossoms. The fact is, red blossoms are followed by the lighter colored fruit, and the white blossoms by the red fruit. I only point to the error because it is perhaps a popular one, and it is just as easy to know the fact as to indulge in a guess.

I observe many dead elms on the President's grounds. Can he assign a reason for his losses?

PRESIDENT HOFFMAN—I am not sure that I can. The trees were set with care in such soil as I had, and the losses are great. Part are in loam and part in coarse gravel. All were mulched with spent tan for a space of three or four feet about the bodies. I mistrust that they were planted too deep, for on removing the mulch to take up some of the dead trees, I found the roots buried some twelve inches or more. These trees were fresh when set, having been drawn one day and planted the next. Some of them were set in coarse, hard, sharp gravel soil, from which the surface had been removed, and the proportion living is greater than on the loam meadow land. Another place, where a swamp was filled in with three to five feet of gravel, was planted, and the trees on that are nearly all alive. I think my trees may have suffered from the drouth for where the loss is heaviest the trees were set in the spring following a very dry winter, and there was very little rain until the middle of summer. About one-half died.

MR. BILLINGS—I think that is a fair explanation of that loss. The fact that the trees lived in the gravel with which the swamp was filled, and died in other locations in similar soil, proves lack of moisture.

It is not necessary to set elm trees deep, and I presume losses have followed too deep setting.

If the President had plowed a strip about four furrows wide wherever he wanted his row of trees, I think he would have saved nearly all. Right here by this hall I plowed on one side of the street such a narrow strip and set roughly with apple trees. All lived and made thrifty growth without care, or with very little. On the other side in the same manner I set maples, and not two in a hundred failed. I have never found any difficulty in getting trees to live when planted under such circumstances and proper care given afterward. The true condition is that nothing else grows about the tree.

PRESIDENT HOFFMAN—My difficulty has been only with the elms. I have set many Lombardy poplars on the same kind of soil and all lived. With the same chance of soil on the gravel and on the loam I set a hundred maples and not three failed. Again I set one hundred and fifty with not more than ten lost. I recognize as good the doctrine that nothing should be suffered to grow about the tree to divert moisture and substance, but there is left the fact that the elms died while other varieties lived and made thrifty growth.

MR. S. A. CHAPMAN—Does Mr. Billings take pains to set his trees as they are taken up, regarding the points of compass?

MR. BILLINGS—On the contrary I set the heaviest side of the top to the north west, and it is fair to presume that it grew to the south west, being pushed thereto by the stronger north west wind.

MR. GEORGE S. McCANN, a very successful planter, narrated his way—With pines he had succeeded in saving on one occasion sixty-eight out of seventy. This result he attributed to the care taken in lifting them. He places great stress on the importance of putting the earth back in the excavation—strata in the order taken out. The fibrous roots which formerly he regarded as essential to the life of the tree he now carefully cuts away.

On the call to name six apples best suited to this locality, three lists were prepared.

and on comparison it was found that Rhode Island Greening, Baldwin and Northern Spy were on all the lists. After that the choice ran to Romanites, Hendrick Sweet, Tallman Sweet, Indian Fall Pippin and Red Astrachan.

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SATURDAY EVENING, April 25, 1874.

All day snow had been falling fast, melting at first until the earth had parted with warmth so much as to be unequal to the task, then gathering into a thick, damp, heavy coat, and still accumulating as the hour for the Club meeting arrived. It was well calculated to dampen the ardor of farmers bent on discussing fair weather topics. It dampened everything in doors and out, but in spite of the storm a goodly number of farmers gathered in excellent humor, ready for business.

J. NIXON, of Bath, N. Y., writes the question—"Will the members of the Club state their experiences with alsike clover, and what the results of their experiments have been. I am anxious to try some if reported favorably, and would be glad to know where pure seed can be obtained, and at what cost, and the amount of seed required per acre. I wish to use it on moist upland."

W. A. ARMSTRONG—My experience with alsike clover has not been satisfactory, and I have sown a great deal of seed on a large amount of land. The last season that I used it to any extent I seeded with it forty-five acres, much of this being of the character Mr. Nixon describes—moist upland. That was not my first experiment. I had used the seed several years, and it furnished pasture so excellent in some respects, that I was desirous to establish it on enough ground to pasture all my stock. After all the observation I have had, I now declare it does not approach our common red clover in value. As a pasture plant it is sweet and palatable—cattle eat it with avidity—but after it is once grazed off, that is an end of it for that season. It does not start as early as red clover, its growth

is not as rapid, and after it is mowed or grazed there is no second growth worth counting.

Pure seed can be obtained at the Rochester seed stores, and there are many farmers in Livingston county who raise it to sell.—The cost is about ten dollars a bushel in large purchases, and about ten pounds per acre, or a bushel to six acres, is sufficient. Many recommend sowing but three pounds, but that is not enough. I have sowed twenty each of alsike and red clover on the same ground.

MR. D. T. BILLINGS—I have had some experience with it, and would not recommend an extensive trial. I sowed an eight acre field mostly with alsike, but getting short of seed I finished with red clover. There was no comparison between the two, the alsike was so far inferior. All there is of value Mr. Nixon must look for the first year, for he will find no profit afterward.

PRESIDENT HOFFMAN—All that tallies with my experience. I have had some of the finest pasture from alsike that I ever saw. A piece seeded on oats took evenly and stayed well through winter, and the next season furnished pasture so excellent there was nothing more to be desired and continued good all the season. Another piece of creek bottom land furnished one good crop for mowing, but that was the end of it. I think it may beset down as a fact that the one good growth in average fields is all that can be expected—there is no aftermath.

MESSRS. G. S. McCANN and S. M. CARE narrated similar experiences; all who had used alsike agreeing as to the excellence of its quality and all declaring it unprofitable from insufficient growth.

MR. DAVID T. BILLINGS.—In this connection I desire to say that it is important that we use care in making statements here, because they go out to the public through the press, and it is manifestly wrong to let incorrect teachings go forth to mislead. I refer to what was said here at the last meeting in regard to the growth of trees. I read from

the published report:—"Let us look at the average growth of timber. From the results of observations and testimony of reliable men the following table is shown to be the average growth of forest trees in twelve years. White maple one foot in diameter and twenty in height." Now there is not a man in this room who ever saw such a growth. I read again—"White willow, one and one-half feet in diameter and forty feet in height; white ash, ten inches in diameter and twenty feet in height; yellow willow, one and one-half feet in diameter and forty feet in height." I venture to say no man in Christendom ever saw such amazing growth—certainly no such average was ever attained any where in this vicinity. We have yellow willow distributed all over this portion of the country, and I believe as large growth as the average in any other section, but there is no approach to these figures. I think there is not half so much growth made in twelve years. Again—"Lombardy poplar, ten inches in diameter and twenty feet in height; chestnut, ten inches in diameter and twenty feet in height; black walnut and butternut, ten inches in diameter and twenty feet in height." Did any man ever see black walnut or butternut or chestnut, with twelve years' growth, of half that size? I appeal to Mr. George McCann, who sits here, a man who has set hundreds of these trees, and who is noted for his success,—did he ever see one of these trees attain a diameter of four inches in twelve years? Why, I have a black walnut near my barn in ground highly manured. It had been growing there, I suppose, a dozen years when I came on the place, and it has certainly been making thrifty growth since, and altogether in twenty years I think it has made not more than six inches diameter.

Men who read these extravagant statements, ask, why let them go out? Let us approach truth in our estimates or stop the publication of reports which must mislead and damage the public. There are maple trees on Water street, which have been set about forty-five years, and without measuring, I dare say here, there are few which have attained in all that time a greater diameter than

twelve inches. I have in mind a black walnut which stands in a place favorable to growth, and as far back as my memory runs it has been there, and yet to-day I think it will not measure more than one foot in diameter. It does not give me pleasure to make these criticisms, but in the line of duty I have regarded it as a work to be done.

President HOFFMAN—I am rather glad, and yet sorry that such work must be done. We invite criticism—we want fact—we want to get down to hard pan. These statements regarding average growths of forest trees, attained in twelve years, I confess struck me as large, but I repeated that I had not seen all the world and there might be localities where such things are possible. I have seen some large growths, but never anything like these. Of maples we all have some knowledge and we know that it takes many years to reach twelve inches in diameter. Under favorable circumstances Lombardy poplar might attain a growth somewhere near the estimate made, judging from the thrift of some which I have growing, but this is the only variety in all the list in which I could expect an approach to the figures given. In maples the most rapid growth I ever saw was made by a tree on Water street, which some man in the spirit of vandalism cut down a short time ago. I do not know how long it had been growing, but probably more than forty-five years and it was eighteen inches across the stump.

Mr. BILLINGS.—Thirty years ago that tree had such size and top that in a heavy wind it went over, lodging on the fence. My brother managed to pry it back to its upright position, and it went right on in its growth. It was a shame—vandalism to cut down so fine a tree.

I would like to have yellow willows shown me that have made a foot and a half diameter in twelve years. From my observations I should say with the foot off the estimate would be nearly correct. Permit me to ask Mr. Carr where were these observations made? Where did he ever see such astonishing growth?

Mr. FLETCHER CARE—I did not say that I ever made such observations. Mr. Billings knows that I could hardly have observed those matters twelve years ago. I spoke of the "observations and testimony of reliable men."

Mr. SAMUEL A. CHAPMAN—Seventeen years ago I set out some maples in a locality suited to their growth taking them up with great care and re-setting not more than twenty rods from the spot where they had grown. I thought they had made fine growth, but in passing near them two days ago my attention was directed to the size by these estimates, so I took a careful look without getting out of my wagon to measure. I think they would average two inches in diameter when set, and that now they are less than six inches at the point where a chopper usually cuts the stump. Yet these trees are thrifty, with full tops and fresh smooth bark.

Mr. BILLINGS—The maples near Park church were set when I came here seventeen years ago. I don't know how large they are now, nor how much size they had when set, but there is no such growth as that of which we have heard.

Mr. CHAPMAN—Since the last meeting I have set maples in places where I set others last year and all died. Now I have a theory about the cause of my loss. I took those trees up with great care, securing as big a lump of earth with each as I could, expecting thus to secure growth; but I think now, since digging them out, that the earth I took up with the roots caused the death of the trees. On examination I found each tree bedded in a dry, lifeless, mucky mold. In the same places I have now set other trees, and this time I have carefully cleaned off the earth, except on two trees, which I set with the lump of earth, as in last year's setting. I expect to lose those two trees, but I can afford the experiment.

Mr. S. M. CARE—In regard to the estimated growth of forest trees it is not fair to take as the criterion the trees which grow along our highways and in the city parks, where every passer by may wrench and

twist their bodies and where cattle incline to rub and otherwise damage growth. I agree with the criticisms made, that the average growth as stated is too large, but let us not apply tests manifestly unfair. I am not prepared to say what may be accomplished in tree growth at the west, but without doubt growth there is much more rapid than growth here. Fifteen years ago I set a small ailanthus, and I will give you my head for a football if it is not eighteen inches in diameter at the ground to-day. So I have apple trees set all the way from fifteen to twenty years ago, which, at the ground are twelve inches in diameter. Of course these trees have had good care. Growth has always been stimulated and encouraged. I believe there are soils and conditions which will produce such size as the table of estimates given has named in twelve years with constant and intelligent care. Still I do not endorse the propriety of sending such figures out to the public. They are like statements of three tons of hay as the average production per acre.

Mr. BILLINGS—Precisely, and calculated to mislead.

President HOFFMAN. I think these criticisms have gone far enough. It now goes out that the table of figures was extravagant, on an average, and yet it may be understood that under the most favorable circumstances and with extra care astonishing growth may be assured.

We cannot reiterate too often the necessity for careful attention to our apple trees at this season of the year. There is an enemy to growth—an enemy which works with such energy that it just about thwarts all effort so far put forth to increase the acres of orchards in this country. I speak of the borer. It is easy to prevent its ravages if we are prompt and vigilant in our care. Once entered, the borer works on until destroyed through violence or the limitation of its period. The knife and chisel are the proper implements to open its hiding place and destroy its life. Do this work thoroughly, now and then wash the trunks with weak

ley and then furnish some protection to the bark for about two feet above the ground so that the beetle cannot deposit her eggs and you have immunity from the pest at least for one season. I advise weak ley for the wash because of the ease of handling, and I think it acts too as a prevention to the deposit of eggs. But there is other protection needed and this may be roofing felt, or building paper, or even common newspaper in several thicknesses, wrapped about the bodies for two feet above the surface of the ground, and some earth put about the bottom to hold it in place and prevent any opening for the deposit of eggs. Anything which furnishes this prevention will do—paper or tar and tallow, or tar alone, or two horse-shoe tile—anything not injurious to the tree.—This faithful digging out of all that may have entered the tree, and then prevention for the future is all—nothing less will save our apples. None of the patent solutions warranted to extract borers are worth the trouble of applying.

There are some who claim that the proper place to raise apple trees is in sod. I disclaim all such doctrine. Set out trees in ground that is to be used for hoed crops, and, as Mr. McCann directs, put in just such earth as is taken out of the hole prepared for the setting, and in the order which it had, mulch with long manure or stable manure, or whatever else will keep other growth in check and retain moisture about the young tree.

Mr. ARMSTRONG—I doubt the infallibility of the protection urged against the borer.—I am sure that the weak ley, or even very strong ley, will not prevent a deposit of the eggs, and while I admit the truth of all the statements about the paper protection, I must say it is good only so far as it goes. This miserable pest usually enters near the ground, it is true, but I have seen instances where the entrance was made two or three feet above.

Mr. BILLINGS—Yes, even among the limbs. The female needs a little protection—a screen to hide her operations, and will then deposit eggs. A cloth placed in an angle of

the tree will usually induce a deposit. I put an opened joint of stove pipe around each of several trees that I wished to protect from pigs, but it gave no protection from the beetle, the eggs were deposited all over the trunk inside the pipe.

President HOFFMAN—Were not those borers already in the tree before you gave the protection? With my trees the protection of which I have spoken has proved sufficient.

Considerable discussion of the habits of this pest was had, all of which was based on observed facts and led to sustain the President's theory of protection.

GEORGE S. McCANN added a word of caution about setting. Drive a forked stick down over the largest roots to hold them in place, and steady the tree against heavy winds.

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SATURDAY EVENING, May 2, 1874.

With good roads and a fine evening, there was a full gathering of farmers, all desiring to say something or to hear what others might offer. A score or more of lady members enlivened the meeting until the prosy matters of plowing and tree planting were about to be presented, when they filed out in fine order, followed by beseeching invitations to "come again."

The first subject considered was the respective merits of deep and shallow plowing, as presented in a philosophical letter by JUSTUS M. WORKS, Osceola, Tioga county, Pa.

"Nature knows no tillage of the soil; but in her relation of crops, one dies and another springs up, leaving the soil and subsoil in their natural relative positions; that part containing the more organic matter nearer the surface.

Now it appears to me that a wise lesson may be learned by the study of Nature's ways and laws. We are told that milk is for babies and strong meat for men. Just

so with plants, which require organic matter to promote the first tender growth. Consequently that matter is placed at the surface or near it, where the feeble rootlets can take it up. But when the plants increase in size, and their roots penetrate deeper into the subsoil, there they can obtain inorganic food to harden and mature their stalks and to form the seed. If we reverse the order of nature by bringing the subsoil to the surface, we thus prepare a seed bed in which the young plants make but a sickly start, for while young their proper nourishment is out of reach. I have often observed in wheat and corn puny growth at the start, from this cause, and from the debility thus induced the plants never fully recover. Therefore I say we should never plow below the surface soil with a common plow. But if we wish to mellow the earth to a greater depth, it should be done with a subsoil plow which stirs and loosens the lower stratum without bringing it up to the surface. However, I think if farmers would seed often and thoroughly with red clover, the necessity for subsoiling would be obviated, for the clover roots extend deep into the earth and their decomposition furnish just the friability and the nourishment needed by the succeeding crop. I am, furthermore, of the opinion that if the farmers in the grain growing region of Tioga county would seed often and burn the clover on the ground, it would put money in their pockets. Nature never turns the tops of plants under to enrich the soil, but suffers them to decay upon the surface whence the soluble part may be carried by rains into the soil. Consequently but little except the inorganic parts ever reaches the growing plant to afford it nourishment. True, shade is afforded for the earth and the mulching which our mode of culture does not furnish—while I may be wrong in my conclusions, there is still the fact that nature is a great teacher, and while we may aid and improve her gifts, we should never lose sight of her designs for they always lead in the right directions."

W. A. ARMSTRONG—This letter has in it a lesson. It points to clover as the great renovator of our soils. While I am an advocate

of deep plowing for heavy moist lands I am ready to agree with the writer that clover, frequent and abundant clover will in the end accomplish all that I would undertake through deep plowing and clover. Nearly all our clay uplands need systematic thorough underdraining, but in the present state of affairs this is hardly attainable because of the great cost of the labor required and the difficulty of procuring the labor at any cost. Draining is at the best, a costly business and until these lands become so high in price, that improvement of this character shall be forced, in order to secure such yields of grass and grain as shall pay something like a fair interest upon the sum of the enhanced values, we need not expect much through drainage. The best substitute is deep tillage and clover. Not necessarily the lower earth brought to the surface, although at the worst, that is but temporary harm, and sure at last to result in good—but such opening of the compact earth that surplus water may sink away and find apertures, lateral as well as vertical, by which it may be carried off. Clover roots alone will effect this condition, with sufficient time, and while they are doing it they also enrich the soil. In undertaking deep plowing in heavy clay it is well to deepen gradually. If every time the work be done, one inch of the lower earth be added to the surface soil, the rains and snows, the air and frost, will so act upon it in the course of the year as to convert it into proper soil for the nourishment of plants, and the addition of one inch at each subsequent plowing soon makes a depth sufficient for all the needs of every crop to which these lands are suited. The writer avers that clover would bring profit if all the tops were burned, and he does not assert too much, but there is profit in the tops as well as in the roots.

MR. GEO. S. McCANN—I have tried deep plowing without much success, or rather without adding much to knowledge. On the Reformatory grounds I made an effort to put the plow down, but found it impossible to attain much depth; the reason for failure was apparent when the grading for the building was made. (The subsoil was a

cemented drift.) But I saw no difference in the wheat crop between the deep and shallow plowed.

I have a field seeded with clover on oats last year, and this spring there is not more than one-fifth of the clover left. Will it pay to hoe the plants?

President HOFFMAN—Hoe them well with the harrow, when by this means the whole field is thoroughly mellowed sow on more seed.

I took a fancy to do some deep plowing a few years ago and accordingly bought a double Michigan plow and with four horses hitched to it went to work. I had first plowed a strip around the field in the ordinary way. The soil was creek bottom or loam and the land in stubble. With the plow set to run just twelve inches I plowed until freezing weather and had a portion in the middle of the field left for spring. Part of that I plowed with my Michigan plow in the spring and part with the common plow. The only difference in the crops raised on the various kinds of plowing was between the spring plowed and the fall plowed with out any regard to depth. All the fall plowed produced crops twenty-five per cent. greater than those on the spring plowed. I tried the same kinds of deep and shallow plowing in sod for corn and without noticeable difference in results. That satisfied me that I had a double Michigan plow to sell. The same results might not follow on hard pan land or in soils where heavy clay predominates, but I think it will generally prove better to break the loose heavy earth rather than bring it to the surface.

The following letter from L. D. Austin on a subject which for the last two meetings had received attention, was read:

"The following ideas on tree planting I have formed from experience and close observation. The first thing to be looked after in setting trees is, the state of the soil. Let it be well drained by artificial means if it has not sufficient natural provision to effect this necessary object, for no good result can be obtained where the soil is kept cold by a surplus of water. After drainage put the land in condition for a crop of corn or wheat

and if the character of the soil be heavy clay subsoiling is an essential process, because it opens up depth into which the tree roots may enter and which serves in two ways to aid growth. 1st. The roots taking deeper hold, the tree is not so liable to be loosened and injured by high winds, and 2d: It will retain its vigor through protracted drouths better than if the sole dependence is on surface soil, for a great portion of the roots which serve as feeders will in such loosened earth push deeper; which serves also another purpose, in permitting near cultivation with the plow, without injurious interference with the roots. And I may remark here that I think cultivation by the hoe or plow is just as beneficial to a young tree as to a hill of corn.

In setting, see that all bruised roots are carefully pruned off with a sharp knife, for a clean, smooth cut will heal more readily than a ragged one and is less liable to rot. In preparing to mulch dig about a foot and a half about the tree, removing a few inches of earth, and in this depression put the mulching material covering with the earth to prevent the entrance of injurious insects to deposit eggs. The safest protection against the borer which I have found is in strips of cloth wound around the trunk which must first be covered with tar and a coating applied to the cloth after it is put around the tree to the height of a foot or more above the ground, and then a little earth heaped around the base. The coating will last four or five years and will serve another very useful purpose in preventing the depredations of mice in winter.

I prefer central pruning by which air and light are admitted to aid in perfecting the fruit. While the trees are young and thrifty the roots should not be much broken by the plow, but when they lack vigor, through age, I think the cutting up of the roots by the plow, is beneficial because it tends to the formation of a new and more vigorous growth. But I would be careful to prune away the top quite as much as I cut the roots, that there may be no draft which the remaining roots may not supply while the new growth is making.

I cannot agree with the estimates of tree

growth as made by one of your speakers at a recent meeting—but there is enough to justify more extensive planting and greater care in the cultivation of both fruit and ornamental trees.”

This letter did not excite comment for the reason that trees had become a hackneyed theme. But it opened the way for a personal explanation by Mr. FLETCHER CARR who arose, and with some manifestation of feeling said:

“When you did me the honor a fortnight since to assign me to the opening of the discussion on tree culture, I accepted with hesitation, because this is a subject in which that observation which comes through long years has an especial value, and there are many in this body who are vastly my superiors in this regard. I see here, now, men who have passed two score of busy years—some who approach three score, and who have turned those years to good account in beautifying the earth with trees. How should I teach those men? I, who have lived but just beyond one score of years. I, who have not watched any thing like half the growth with which these my seniors are familiar. And yet I tried to perform the task assigned me according to the poor ability I possessed and in order to aid the Secretary, who has tasks enough assigned him, I put my thoughts in writing, although in the busy season of farm work, I had to steal the hours from sleep to do it. Well I made a mistake. I presented a table of tree growths and in it there was a mistake. I put right in the beginning the word *average*, and it should not have been there. Sharp eyes at once detected it and instituted comparisons between my unfortunate average and the trees on the street, which every boy wrings and twists until they outgrow his efforts to damage and which passing cattle never cease to rub and bruise. I appeal to these men, is it fair to judge me by such a standard. Now I have found in the past week a gentleman who has maples set less than thirty years ago, as he assures me, and they range from sixteen inches in diameter down to twelve, a foot and a half above ground. Another has maple trees set twenty-

three years and they run twelve inches down to ten.”

The speaker gave numerous examples of tree growth to fortify his position or at least to prove the possibility of such growth he had unfortunately called average, and then in an eloquent peroration presented his defense against what he was so unfortunate as to style a personal attack.

At the close, President HOFFMAN said:

Perhaps one word may be needed now from me. The estimates presented by Mr. Carr were large, very large, and they appeared as average growth of trees, the word being used twice. Now there was real necessity for correction. We want real hard fact. We would not put forth any false teaching. We may differ in opinion, but in statement of fact we must be accurate. He who speaks here, be he young or old, must submit to criticism. In the case of our young friend, he has, I am sure, misapprehended the spirit in which correction was offered, the necessity for revised estimates he now concedes. Let us end the matter here and start anew in search of facts.

Several others made brief remarks consolatory and otherwise, when at last the meeting adjourned in good feeling.

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SATURDAY EVENING, May 9, 1874.

For twenty-one weeks the Club has held every Saturday evening a regular session. Very many times the elements have made attendance a difficult task, and especially during the spring months, when the roads have been very bad, yet with all these discouragements there has been no flagging of interest. Never before since the organization of the Club has there been such uniformly good attendance, and so much zeal, as during the past five months. Rarely has there been a meeting without the presence of spirited farmers from distant towns. And all the time there has been a healthy growth of membership, and, what is of vastly greater importance, there has been active exercise of thought. Even among those who seldom or never appear in the list of speakers, there



has been gratifying evidence of profitable reflection, and now as spring work is in progress, the plans and the work of these silent but useful members testify to the value of these meetings.

A very backward spring has crowded the farm labor into restricted time, and embarrassed the most carefully devised system of farm operations. But all those farmers who have been accustomed to wait and consult are better prepared to provide for the exigencies of the season than if they had preserved the old isolation.—There has been developed a community of interest by which accommodating aids have been brought into existence and into use. In the brief time given at every meeting to state wants, there has been opportunity to find seed, implements, animals and farm help of every kind, so that these men enter upon labor fully provided and equipped with every requisite for the successful prosecution of their plans.

The season of labor being now reached, the Club wisely concluded to suspend the meetings for a few weeks. The regular order will not be resumed until September; not until the seed now sown shall have fulfilled its destiny and the ripened crops be garnered, thus giving to the thoughtful and observing husbandman new lessons of experience, which shall form themes for many future discussions. Meantime there will be now and then a meeting to note progress. The librarian will open the hall to those who find time to read, on alternate Saturdays, beginning with Saturday, the 23d inst., at 6:30 p. m., giving one hour for the taking of books.

The first business of the session was the answering of a question put by an old member. "When should sod ground be plowed for corn?" He said, "I have heard it stated that there is much less trouble by worms, if the land be plowed just before planting. Yet there are good farmers who insist that earlier plowing is better. Something must depend on situations, it is true. There is much good corn land that necessarily must be worked late if at all, because early in the season it holds a surplus of moisture."

W. A. ARMSTRONG—There is much to be said on this subject of plowing, but first the

question addressed to us, deserves a specific answer. Plow the sod immediately before planting. It is alleged that the green tops and roots of the inverted sod will serve as palatable food for worms, which failing to find this supply, would feed upon the young corn plants, and the theory is plausible. But there is another reason for deferring the plowing until close to the time of planting. All our soils are infested with the seeds of weeds, which await only the proper condition and season to spring into life, and when you turn the sod over, you bring to the surface fresh earth already planted with innumerable seeds whose germs have wonderful vitality. The good farmer who essays a crop of corn finds in these his chief obstacle to success. He must wage unequal warfare, if he by plowing early provides the needed condition to induce this troublesome growth and then plants his corn on ground already occupied. Here is reason enough for the lateness of plowing, so that the seed he plants may have at least an even start with the useless growth against which he is thenceforth to battle or fail in his crop. But if early plowing be done and the weeds thus advanced into growth, means must be devised to effect their destruction. Very thorough harrowing or cultivating will accomplish this, but it is almost as tedious as the original plowing, and therefore to be avoided.

Now, there is yet another reason for putting off until the latest day the plowing sod for corn. It is the fact that the decomposition of the roots covers them at about the time when it can do most good to the young plants. The heat thus developed and the nutriment thus furnished seem to meet the critical period in the growth of corn when aid must be given liberally or the crop fails.

President HOFFMAN—Very many farmers claim that the chances of all farm crops are improved when the plowing precedes the planting of the seed as closely as possible. Thus if all our land should be plowed the same day the seed is put in, it would be better. And such is my opinion.

The question being answered, about the time to plow for corn, I have now something

to say about the execution of the work.—Plowing, whether in spring or in fall, ought to signify the thorough breaking up of the soil—every inch of it. In this I used to take pride when I guided the plow by my own hands, more than I do now. It is a positive saving to do the work well, leaving no balks to correct. Of course there will be an occasional slip, but do not promise to correct such faults in the next round. The true way is to back up and correct them just when they are made. If left until the next round, they are left beyond hope. I have attempted to hire plowing by the acre, with the promise that it be well done.—My hopes, based on such promises have often proved delusive. Years ago, such a bargain brought me trouble which lasted eight or ten years. During all that time the balks made in that poor plowing were plain to be seen. I do not argue for depth, but I ask that whether deep or shallow plowing be attempted the whole be plowed leaving no balks. The proper depth depends very much upon the character of the soil. On our gravelly flats I am satisfied that five inches are enough depth for corn, although if the work be done in the fall, greater depth, perhaps even ten inches, might do as well.

MR. J. M. BUCKBEE—Twenty-three years ago, when I took possession of the farm I now occupy, there was on it one field so poor that it produced almost nothing—not even weeds. During the summer there was not enough growth to hide the gray earth. The soil was a heavy clay. I resolved to plow it for wheat, and accordingly put on two teams, a yoke of oxen and span of horses hitched to a stout plow, and I put it down as deep as I could—almost to the beams. In this way I plowed all the field, and in the same way I crossed it at the proper season, putting the plow as deep as before. After this fitting I sowed winter wheat, and the crop I obtained was very heavy. Much of it grew so tall and heavy that it lodged. I approve of deep plowing on lands of a heavy character, when the same is to be crossed bringing again to the surface the soil which the first plowing buried.

After general remarks on the various requirements of different soils, and the true methods of restoring fertility in exhausted lands through the agency of the plow, the club adjourned four weeks.

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From May 9th, adjournment was made from time to time, without discussion, until September 5th, when the regular weekly meetings were again resumed.

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SATURDAY EVENING, Sept. 5th, 1874.

According to previous announcement the first regular meeting of the Club for the season took place at the hall on Saturday evening. The attendance was not large, owing doubtless to the lack of readiness on the part of many members and the pressing demands of the season. Many are busy during all the good weather, in the preparations for the fall seeding, others are attending to their harvest of hops, while others are gathering the second crop of grass. Nevertheless there was a good degree of interest manifested, the discussion being quite spirited, although no subject had been assigned nor speakers selected for the occasion. Among those present there was a score or so of the old members, who for years have steadily kept their places, solid men, not all talkers, but active thinkers; men who, by a single question or remark, suggest a topic and excite reflection which leads to the development and presentation of truth. Men to whom the country is indebted for agricultural improvement; practical farmers who elaborate ideas to which they give sententious utterance, and for the rest point to results attained in their own practices, their silent arguments bearing the eloquence of illuminated truth.

After an hour spent in social intercourse, President Hoffman called the meeting to the business before it, and

proceeded to sketch briefly the situation. He said :

"We meet again after a busy season. The work of our farms has engaged our best energies since the close of our spring meetings. We have learned in the school of labor doubtless many new facts to be reported in these discussions, now regularly resumed. Most of us, I am sure, have pleasant reports to bring. In all my observations I cannot recall the memory of a summer which has brought to the first of September a crop of corn more excellent and with such certain promise of full ripening. Wheat has disappointed us by its excellence. The other grains now garnered have given full yields. Hay is not abundant, yet it is in fair supply, and the quality is generally excellent. Potatoes, in spite of the fears expressed, give promise of a bountiful supply. The only farm crop likely to be small in the product is buckwheat. Fruits are in full supply and of excellent quality. As farmers we have reason to be thankful. I trust we are. And in opening this meeting, I desire to give expression to the sentiment which I know exists in the hearts of all present. Thanks, earnest, sincere, honest thanks, to the Almighty God for the many blessings which He has vouchsafed to us in the summer now closing."

The President's remarks met the full sympathy of all. Resuming his seat there were a few moments given to general conversation, regarding the present wants of members, when the question of seed wheat being presented, he called up Mr. Samuel Hotchkinn, miller, and an expert judge of the various kinds of wheat which enter our markets. The newspapers of the last fortnight having frequently called attention to a variety, new to this portion of the State, brought from Michigan by Mr. Hotchkinn, beautifully white and plump, and reported very prolific, members were desirous to learn more.

MR. HOTCHKIN.—When I presented some time ago a sample of this wheat to the Secretary of the Club, my only object was to show a very fine specimen. It is called the White Egyptian. Having been noticed in the papers, there are statements by which farmers may be misled and to these I desire to give correction. In examining the sample it appears to have much resemblance to the Soules and to the Diehl, but a critical examination leads me to assign it a place midway between these two varieties. In its most important features, it is not essentially different from the Diehl, but has so many characteristics of the Soules that I concluded it is a separate variety distinct from both. I have not been desirous to offer it as seed, but as I am constantly receiving it by the car load for milling purposes, I can supply it if there are any who want to make the venture. There seems to be some confusion regarding the sample in question, which is reported to have been taken from a field of one hundred and fifty acres, the average yield of which was forty-three bushels to the acre. Now I do not know that this identical sample is from that field. I have stated to some gentlemen of the club that I read in a Rochester paper of that extraordinary field of that Egyptian wheat, but I have no means of knowing that this sample is taken from it. The gentleman, who sends me this wheat from Michigan says, take a half dozen counties around Kalamazoo and they have not estimated the average at more than twenty-four bushels to the acre in that entire territory. You have not the statements as made to me. All I claim is that this wheat is of very fine character, and is reported to give large products.

I have given much attention to seed wheat, but I do not like to take upon myself the responsibility of urging upon our farmers any particular kind. And now let me say, that after fifteen years' experience in milling, the wheat that for

some years past has given the best result is the Wicks. No doubt it has been improved by cultivation. At least it pleases me better than it did on first acquaintance. I have none for sale and no interest in making the statement other than to give expression of the facts as I have observed them.

This is a good time to discuss the question of seed wheat, but I do not claim to be able to instruct these farmers in the matter of selection. This white Egyptian, of which I have spoken, comes from a latitude considerably lower than ours, and what may be the effect of the change when sown here I do not know. The current opinion among farmers, I believe, is that it is better to bring seed from the North than from the South. In regard to wheat culture in this county, I do not know but it will soon become unprofitable. I am almost inclined to think it will. The improvements made in milling in the last four years have forced the conviction that the finest products are obtained from the hardest grain. To-day the finest St. Louis flour is outsold in the Boston market by the products of the extreme northwest by an advance of three or four dollars per barrel. And I noticed yesterday in the Rochester reports Amber wheat was selling twelve cents per bushel below No. 2 Milwaukee, which is not the highest grade. I think the markets will rule against us for some years to come. It is certain that other interests will prevent us from producing wheat largely in this section of New York. But perhaps there is nothing unfortunate or discouraging in this. Our lands are very generally adopted to grass, and there may be more profit in cultivating this crop, giving more attention to dairying. We make excellent butter, and we can fatten cattle and so turn these lands to profitable use.

President HOFFMAN.—The great experience of the speaker in working up our grain makes his remarks especially

valuable. We want to raise the kind of wheat which works into good products. It is not enough to get a full yield. The test of manufactured—the grinding is yet to come, and, of this Mr. Hotchkinn must know far more than we who raise the grain. Let there be a free talk now while farmers are interested in seeding.

Mr. HOTCHKIN—I have noticed many remarkably fine samples of spring wheat, and I have shown some to the President and to the Secretary of this club, who have expressed the opinion that there was some mistake and that I was really exhibiting very fine winter wheat, so much of the characteristics of spring wheat was lacking. I have found upon inquiry that these samples were from crops where the seed was sown in January or February, taking care that it be put in thus early that the ground might for a season be covered by snow. I would suggest that some experiments be tried with fall or winter sowing of spring wheat by the farmers of this club. I can hardly hope that you will do it, but I believe that the character of the grain might be greatly improved by such seeding. The ground might be put in readiness, and late in the season—say the last of December—the seed could be put in with almost a certain prospect that the spring wheat thus sown would partake of the best characteristics of winter wheat.

President HOFFMAN—Many years ago that was the practice, at least it was put in very early, the ground being prepared in the fall and the seed sown in any spell when it could be dragged in. Then we succeeded in producing good crops of spring wheat. Now the practice is to wait until the ground is dry, then plow and sow, and by this plan we do not succeed. I believe there is good sense in the suggestion of Mr. Hotchkinn, and I, too, hope some of our farmers will act upon it.

We are constantly having new varieties

of winter wheat presented to our notice. Some have been tried by members of the club. Last year several ventured to sow considerable quantities of the Clauston, which was new in this vicinity and gave fine promise. Perhaps there are some present who are prepared to report.

JAMES McCANN—I sowed about thirty bushels, partly on oat stubble and the remainder on wheat stubble. Neither is regarded as a good chance, but mine is a good sound crop so far as yield is concerned. But I have heard that the Clauston does not grind well. I cannot say what its qualities for milling may be, not having tried it. I should be glad to hear from Mr. Hotchkin upon this point.

MR. HOTCHKIN—I have never ground much of it and therefore cannot say of my own knowledge what its milling qualities are. Last year I saw very beautiful samples of it in North Hector, on the east shore of Seneca Lake. I never saw them excelled except perhaps by the finest Missouri, and the samples carried around to fairs by those interested in western lands to induce farmers to immigrate, and I have no doubt those samples were picked by hand. But I met some time ago a very excellent miller on the shore of Seneca Lake who had bought largely of it and ground many hundreds of bushels. He told me he was exceedingly disappointed. I have felt like relying upon his judgment. Another told me he had tried it very thoroughly and wanted no more of it. A few bushels were left at my mill not long ago, and after grinding I enquired of my miller about the product. He said: "It ground fairly but not as well as the wheat that was in before." That was the Michigan Treadwell. I have noticed, as many of you may, that when a kernel is cut in two it does not present that floury appearance in the interior which we like to see.—

There seems to be in every kernel a substance like horn. It is a very handsome wheat, as fine in appearance as any I have ever seen, but from the observations I have made, and the reports which come from experienced millers, while I should be very sorry to discourage any one, I should advise gentlemen to use caution until its merits are more fully determined.

PRESIDENT HOFFMAN—My experience with the Clauston covers only one year, but I must say that I have never raised any other variety which has pleased me so well in the field. It grows vigorously, has a stiff straw which stands well, and gives a good yield, the best I ever had, taking into account the character of the land on which it was sowed. I had ten acres, seven of it oat stubble which I regard as a poor chance for wheat always, but it diminishes the chances of the crop; the land itself was poor, stony and unpromising, what is styled *pickaway*, nearly covered with cobble stone. The remaining three acres were in good condition for wheat as land can well be made, being tobacco lands, which I consider the very best for wheat. I have had the crop threshed and the product of the ten acres is two hundred and seventy-four bushels and one peck. The wheat is very fine in appearance, but as to the grinding I have made but a single test. I took twelve bushels to the mill as soon as it was threshed. When the crop was put in the barn I was obliged to store it on a mow of hay in which about six feet in depth was put in damp. Every part of the mow was moist as far down as I could reach when the wheat was put on. When it was threshed the moisture had reached half way through the wheat which was dry when put on. When I took the grist to the mill the miller pronounced the appearance beautiful, but on threshing in his hand he said, "why this is very damp, I cannot get a full yield of flour." Of course I did not expect a full yield. I

gave of the product a sack to Mr. Griswold and another to Mr. Hotchkinn to test, and took the remainder home. Mr. Griswold brought me a loaf of bread made from his and it was fine. For my own family it is pronounced as good as we want.

JAMES McCANN—Does the berry hold good color?

President HOFFMAN—When my wheat was nearly fit to cut there came a whole week of rain by which cutting was too long delayed. The color therefore is not so bright as it should be, but there are kernels of the later heads as bright as one could desire. On the whole I never saw finer wheat except Oregon samples. I like it so well that I shall sow twenty-five acres of it this season. No doubt the fault in color is owing to the bad weather by which the grain was allowed to become too ripe.

CHARLES HELLER—That is a sufficient explanation for the dark color.

JAMES McCANN—I have been advised to sow clover with my wheat this fall. A gentleman in Spencer who says he has practiced such fall sowing for several years informed me that he had found it successful in every instance. I think I shall try an acre or two.

President HOFFMAN—I have tried small patches later than this but I always lost the seed.

I should like to hear from Mr. Heller, who is an excellent wheat farmer, when to sow wheat.

MR. HELLER—I should sow as soon as possible, now if the ground is ready.

President HOFFMAN—Have you never seen failures of the crop which could fairly be charged to early sowing?

MR. HELLER—Never, when sowed at this season, but I have often seen failures from late sowing.

President HOFFMAN—Yes, very late sowing.

MR. HELLER—Yes, even when sowed as late as the twentieth or the fifteenth of September. I should prefer having the seed in now, and in very early sowing I would use the drill and put the seed in deep.

MR. HOTCHKIN.—In relation to the color of the wheat, which has seemed to change, the reasons assigned are quite sufficient to account for it. I have examined this wheat very carefully with the microscope, and as the result of my investigations I am forced to believe it is identical with the white Wabash raised low down in Indiana, with only such changes as are due to the different situation and climate. The white Wabash, for years, was the best wheat that I received, giving the best flour and the best results. In shape, color, size and other characteristics the Clauson and the white Wabash seem identical, but there is a softness about the latter not to be found in the former. My theory is that bringing the seed from a warmer to a colder climate accounts for all the difference. I have seen, in Canada, samples of the Clauson which had not held color and there was suspicion among farmers that this fault was characteristic of the variety.

JAMES McCANN.—I raised four kinds the past season and certainly the Clauson is the best, the largest heads and the best berry. Other kinds had better ground, some being on summer fallow, but I doubt if any other would give so good an average, although not all is threshed.

President HOFFMAN.—In mine I noticed that on long or short straw the heads were all of good length and well filled.

So far as the habits in the field are concerned it develops very fine characteristics.

Some farther remarks were made about the amount of seed required to the acre, which seemed to range from one and one-fourth to two bushels, according to circumstances. Drilling as against broadcast sowing, had also partial consideration, when, the hour of closing having arrived, the Club selected for discussion at the next meeting, "Management of Agricultural Fairs," and adjourned.

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SATURDAY EVE., Sept. 12, 1874.

The subject selected for discussion at this meeting was of timely interest, but it did not attract a large audience.

In the absence of President Hoffman, who was engaged in the service of the State Agricultural Society, Vice President McCann, who is President of the Chemung County Society, occupied the chair. In opening the meeting he said:

It is very fortunate that this club has chosen to discuss the management of agricultural fairs at this opportune season, when the numerous organizations are about to open their annual shows. No doubt there is room for great improvement in the manner, if the way should be pointed out. The officers are generally desirous of receiving suggestions and will not be slow to act on such as seem to promise for their institutions increased usefulness. For myself I do not claim to be able to say or do anything for the good of these shows beyond the ability of every exhibitor. There are gentlemen present who can furnish us aid without doubt by such hints as we need. I shall call on Mr. Armstrong, who will excite remark by his ideas of the management.

Mr. ARMSTRONG—If there is any person in this hall who is most thoroughly ac-

quainted with the chief requisites to give the fairs usefulness, he is or should be the presiding officer, who has for weeks been actively engaged in devising plans to make the coming show of our county society successful as well in the excellence of the display as in the receipts of money. While I shall not assume to instruct him, I shall venture a few suggestions.

No fair is successful if it does not convey to spectators some useful lesson, or at least make such sight-seeing as shall give pleasant memories to the beholders. The mere money receipts at the gate do not constitute the most important object to be sought, nor is the cash value of the premiums the chief desire of the intelligent exhibitor. All excellence depends more on the farmers and laborers in other branches of industry who live in the surrounding country than on the officers of the society, who generally have much labor to perform and not always many thanks. If each should carry in his best specimens of wheat and wool and butter and corn and display them by the side of the best products of his neighbors' skill, thereby exciting pleasant and friendly strife for excellence in the products of future labor, the great object for which fairs are devised would be well attained. But men need premiums to attest such excellence, and the award of these prizes, it is alleged, depends more upon the name and position of the exhibitor than on the merit of his articles. It is said that the judges will mark down a prize to the president, or to any other high officer of the society, to make favor for themselves, even when these officers are not justly entitled to the award through meritorious display. Only recently the *Rural New-Yorker* depicted in a cartoon a set of easy judges viewing a miserably forlorn sheep, and awarding the prize on the information that it was bought with the money of a wealthy dignitary, and was reputed to have a moneyed pedigree. The whole is a base caricature of human

nature. Those who insist that these things go by favor to names and position betray in themselves a wickedness which unfits them for places of trust. Now in this hall is a fair representation of the class of farmers from which these judges at the fairs are selected. Many of them are now assigned to such positions. Dare any man charge that one of them could be induced by any consideration of favor to rob merit of its just award to please a dignitary, no matter how great? Say the judgment of these men is at fault, and it may be true, although the charge rests on the judgment alone of other men who are themselves equally liable to err. But it will not do to say that these men are capable of selling an opinion. That there are individual cases of wrong prompted by impure motives, I do not deny, but I enter an emphatic protest against that malignity of spirit which assails the integrity of an honest class.

Much has been said and written about the horse trots which form a feature of so many of our fairs. We have in this county hitherto prohibited such exhibitions at the fairs, but now for the first time under amended laws we are to have trials of speed. The horse is an agricultural animal. His rearing and training is an important interest. He is valuable somewhat in proportion to the development of a rapid gait. I am quite willing that premiums should be offered for speed provided only that the disreputable practices which attach to ordinary racing shall be effectually prohibited. The men who have this matter in hand will not countenance wrong. If they find the turbulent element too strong for restraint the experiment will be abandoned, but I believe they will prove themselves able to subject even a horse trot to such wholesome rules as they are sure to impose on all who enter. It is my desire that all these fairs should be conducted in the interest of agriculture, and the dependent industries, giving pleasure as well as pro-

fit to all, and leaving no bitterness nor animosity to mar the remembrances of the entertainment.

One other matter regarding the future and I shall give place to others. There is no other place in this State possessing in so full a degree all the essential elements for a grand and successful agricultural show as this. Here are the grounds of the State Society, ample in space and with all the elaborate appointments for such display of products as all the counties within a circuit of a hundred miles about us could make. We belittle our opportunities if we suffer this to be a mere county show. We want something of more grand proportions. We want the farmers of Pennsylvania and of New York to meet here on terms of absolute equality so well assured that all efforts may be expended in the one direction of excellence. It is easy to give this assurance and to inspire them all with direct personal interest, but to do it an effort must be put forth. There must be such organization as to give all the territory common interest and then the matter must be set forth in the newspapers until there shall be no doubt left. It is within the province of the officers of this society, who will find their efforts in this line properly and ably seconded by the best citizens. If they neglect this important matter they fall short of their duty.

President McCANN—It is very true, as just remarked, that the work of the officers will not count for much unless there is cordial cooperation by farmers and others having articles to exhibit. Great pains have been taken in the selection of judges, so that there should be no reasonable suspicion of wrong. The managers met six times to give these matters full and careful consideration. For the horse classes the several committees are composed of two members living in other counties, and one in this in every case, the object being to insure absolute fairness by obtaining gentlemen against whom



no charge of prejudice could be brought. But in spite of all these precautions there are already owners of horses who cry out that there is a job planned. As to the trot I may say that I have not held it in favor. Personally I should prefer to exclude it, but a majority desiring to make a trial of this attraction, I have felt obliged to yield, and hope it will result in no evil. As chief officer I promise that every effort shall be directed to make the test fair, and to divest the performances of demoralizing influences so far as possible. The making of money is not the chief object of the society. If it were there are many ways of accomplishing it. To-day I had the offer of eighty dollars in hand for the privilege of setting a table on the grounds prepared with colors and balls to roll, in some way depending on the colors, making an opportunity for betting. Of course the money was declined with a refusal of the privilege. Another person wished to enter for the purpose of selling cakes of soap each of which was done up in a package alleged to contain a cash prize ranging in value from twenty-five cents to fifty dollars. He too with his tempting soap, was refused. No doubt we might make money by these pernicious attractions, but money so offering we do not want.

Mr. J. S. VANDUZER.—It seems to me that whatever we plan relating to the fair we shall find when the occasion comes there will be something to amend. There is need nevertheless of the best preparations we can make. The arrangements require a great deal of care and thought. Much is entrusted to the superintendents of the various departments, and however capable they may be their parts will not be well performed unless their duties are assumed beforehand. I am reminded of this by an embarrassing failure last year caused by the failure of the forage superintendent, who did not provide subsistence for the animals until near the close of the first day. Much of the stock which

came in early was in a sorry plight, jaded with travel and suffering with hunger, while there was unavailing effort to find a proper officer to procure the supplies. There should be not only men to purchase but time given to this important part of preparation. Whatever ability the president and secretary and their general superintendent may possess, there must be men on hand to execute or all will count for naught. The requirement is much the same as that of a general in the field. He may plan, no matter how well, and if he has not subordinates and troops to execute, he will not accomplish much.

Another source of dissatisfaction last season was found in the imperfect entries, and these were caused by the great haste and rush of the first day of the show, which, in the secretary's office, was devoted almost exclusively to receiving entries. Much hurry is incompatible with good order. The result was many articles and animals were assigned to wrong classes, by which exhibitors were greatly dissatisfied, although clearly enough the fault was their own. Let us hope farmers will not delay their entries until the last day this year, but let them be assured if they do so delay, that the rush to the secretary's office will render it impossible for them to obtain such consideration as they desire, and the confusion of last year will be repeated. I would recommend that in the future there be a day appointed, some time in advance of the opening, when all entries shall close, thus giving time to revise and correct errors, which, under the best management, are liable to happen.

And then we want a complete, well organized, comprehensive plan of presenting all the requirements of farmers through circulars, hand bills, posters and newspapers, so that none may plead lack of information. This done, the secretary and superintendents of the departments should unite in consultation to discuss the various requirements;

each of these officers should be especially adapted to the place assigned him, and he should be well provided with competent assistants. If all these requirements should be fully met the confusion and vexatious disappointments of the last fair would be obviated.

Still another irregularity which characterized the last fair should be noticed and prevented in future. Many farmers entered the grounds with their teams and appropriated quarters assigned the animals entered for exhibition, encroaching upon them to such an extent that neither proper space nor supplies could be procured until patience was quite exhausted. Certainly such management is so glaringly wrong that it would seem, only to direct attention to it, to prevent its occurrence. I would permit teams to enter in any available space, and I would ever have supplies for sale, but in no case would I permit visitors to usurp the privileges assigned to exhibitors.

President McCANN.—I regret that the general superintendent is not here for the suggestions are such as he would be pleased to consider.

It may be promised, however, in his absence that there will be no neglect of duty on his part; and the several department superintendents present will heed the suggestions. I know there was cause for complaint last year in the waste of fodder, besides the consumption by teams driven in and quartered on the society. There was complaint also of animals entered by those who sought only to get keeping.—This year the general superintendent will reject all animals lacking merit and the fee will be forfeited to the society.

Mr. BEECHER.—As one of the superintendents last year I can certify to the lack of forage and the abuses specified. There were cattle from near Albany and the interior of Pennsylvania, brought in, by rail, in the morning and compelled to go

without food until nearly night, because it could not be procured. We sent foraging parties into neighboring corn fields and obtained what we could in this way, but it was insufficient.

Mr. JESSE OWEN.—In my department last year, the domestic, there was no serious complaint, but I was aware of the trouble had by others. It seems to me nearly all the provisions could be so well understood before hand that there need be no repetition of the embarrassments. It would be well if a general consultation could be held by the department superintendents, secretary and president, a day or two before the fair opens, each defining every want not yet fully supplied and so securing provisions. The only trouble I had in the domestic department arose from the desire on the part of nearly every lady exhibitor to secure the best display for her entries, but soft words and discreet attention pacified and, apparently, satisfied all. Now let us meet and arrange everything as well as we can a day or two before the opening, and there need be no cause for complaint. Meantime we should keep it before the people that fair treatment is what we desire to give and what we will exert ourselves to offer to all.

Mr. S. M. CARR.—After an extended experience in the department management of fairs, I am prepared to say, that the greatest difficulty arises from the confused manner of making entries, and this in turn is caused by the rush and pressure of business at the last. Many entries are made in wrong classes because there is not a correct understanding on the part of the exhibitor of the requirements, and the pressure on the secretary will not permit explanation. Earlier entries would obviate all this, but if mistakes occur there should be the ready means of correction.

There was last year a fine carriage team entered in the class given to farm horses,

Mr. Taylor, the exhibitor, was without doubt, plain in his direction, and besides a mere glance was sufficient to show that his were carriage horses and nothing else. I tried earnestly to have correction made, but without avail, and Mr. Taylor was cheated out of a prize, for plainly enough he had the best carriage team on the ground, by carelessness not his, entered in the farm class. There were many similar cases.

In making up the committees great care should be taken to fill the places with some who have nothing to exhibit in the classes which they judge. I think the managers sometimes fail to meet the requirements in this respect.

As to the trot I fully believe that it may be managed without the evil practices which usually attend such exhibitions, and if it can I do most heartily approve of it. Let wrong doing find its penalty; let the officers be vigilant and we shall have no trouble growing out of the trot; all gambling or betting must, of course be prohibited, and the whole management subject to the rules of the society.

Mr. OWEN.—Very many of the entries are made by letter, and insufficient data are given to enable the Secretary to place animals in their proper classes. No doubt that officer does the best he can and finds embarrassment enough without being obliged to assume the blame which should fall on exhibitors themselves.

Mr. CARR.—But if there are mistakes should they be rectified?

President McCANN.—Every means should be used to prevent mistakes, and if they do occur the best possible thing must be done. They cannot always be set right. The society distributes five thousand pamphlets with the printed rules set forth. Certainly exhibitors

should use their own intelligence. The Secretary is not required to examine every team entered to decide in what class it shall be put.

Mr. VAN DUZER.—There is a great deal of hard work attending the conduct and management of a fair, and, as a rule, it is poorly paid. I insist that the men who devote their time and energies to the building up of the fair should be liberally paid. Let us pay a good salary to the secretary so that he may afford to devote time to the work, and with our excellent facilities and central position there is no reason why we may not have shows as great as those of the State society itself. It was the design of those who encouraged this location of the State society that we should build up a great institution which should be an honor to the whole country about us. Let us hasten to accomplish the design.

Mr. G. S. McCANN.—If we do not have a successful fair the whole blame should be charged upon the Club, for there are enough of us to make a good show, if we have the proper spirit. I say then the responsibility rests with us. Let every man, every woman and every child take something of excellence, as all may, and there will be no failure. But let no one look over the articles and say, "I could beat this." He should be ashamed to say it, for it is proof that he has neglected a duty.

As to committee work I know it is difficult. I have been obliged to award premiums on the statements of exhibitors who showed samples of grain and gave statements of the yield. I could not dispute them nor believe them. They should be required to verify by oath that more truthful men may get their just dues.

Mr. HOTCHKIN.—I have had presented to me frequently the idea of an inter-

county fair on the grounds placed at our disposal. Gentlemen in the surrounding counties have frequently expressed their desire for such an organization. May it not be well to consider it? Our fairs are improving, and we ought not to favor competition. We do much better than a fair of which I read not long ago—I think in a Utica paper—where the articles exhibited were a calf, a goose, and a pumpkin.

After further remarks by several of the speakers and long after the proper hour of closing, it was resolved to continue the subject at the next meeting, which happens to be the evening of the last day for taking entries of horses, cattle, sheep and swine, grain and dairy products. President McCANN promised the attendance of a clerk for taking entries, of whose service any belated exhibitors may avail, at the Club Hall at the next meeting.

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SATURDAY EVE., Sept. 19, 1874.

Several of the old members appeared bearing signs of fatigue, for they had spent more or less of the week in attendance at the State fair in Rochester. President Hoffman having filled his place of executive officer in charge of a department, had given a whole week of exhaustive labor to the performance of duty, but at the usual hour of opening he was in his place and called the Club to the order of business.

Late last fall Mr. Davis, a farmer in Reading, Schuyler county, presented to the Club specimens of his seedling potatoe which had acquired some local celebrity, his object being to secure an impartial test of its qualities. The potatoes were at that time assigned singly to several gentlemen who engaged to plant and return statements of observed facts when the products should be gathered. Mr. Davis attended this meeting in expectation of hearing full reports of the several tests, but only Mr. George S. McCANN was pre-

pared with a statement; the others, generally, not having gathered their crops. He had planted his single potato, cut to small pieces, with the design of securing the greatest yield, and to make a comparative test he had planted in close proximity an equal number of hills of the early rose, with the difference only that of the latter he used the full average amount of seed. On digging he found the product of the Davis potato forty-five and three-quarter pounds, and that of the early rose, forty-eight pounds. This test he regarded as in favor of the former, taking into account the diminished seed, but as to appearance the rose was superior because the specimens were fair and smooth, while the Davis product came out rough with prongs, which might be owing to too great richness of the soil. Of the quality for the table no test was reported. At a future meeting, when the other experimenters shall have gathered their crops and the facts of growth, full reports will be submitted to the Club and reported in the proceedings.

President HOFEMAN, in opening the subject for discussion, "The Management of Fairs," said that his duties in the service of the State Society had so engrossed his time and attention during all the week, that he had only a few hours before been able to read the report of the last discussion, when the county fairs had received a very full criticism, at which meeting he had not appeared to explain some of the causes of complaint. He was quite willing that all faults should be pointed out, and he hoped that means of correction would be found. As he read the report of the former meeting the remissness of officers had been pointed out, and for whatever fell within his department he was ready to answer.

Mr. SAMUEL CARR—I think the reporter misapprehended some parts of my remarks at the last meeting. It is true that

I spoke of entries which, by being assigned to wrong classes, made vexatious trouble, but I charged no fault on the general superintendent Hoffman, who certainly labored assiduously to bring order out of the chaos of errors. I say now if we would have successful and well ordered fairs there must be salaries paid to the officers in charge, so that they can not only afford to devote their personal services to the work, but may employ suitable assistants.

W. A. ARMSTRONG.—The speakers at the last meeting pointed out faults which were charged to the account of some officers. Let us not at this meeting fear to face the responsibilities. I see the president, secretary, general superintendent, and many of the department superintendents, are here, interested in all that relates to the management of fairs. If we said things with some freedom of speech a week ago let us see now how much we can sustain. All of us want to make the approaching fair successful in the management, in the display of products, and in its influence upon agriculture.

Mr. CARR.—I spoke of errors in entries, by which carriage horses were put into my class of farm horses, and when I tried to get correction made, in the interest of the exhibitor, I could not; so we had charges of wrong, which were true, and we made enemies where we might have made friends. I say the secretary should know the proper class in which animals, horses especially, should appear. The idea that I wished to enforce at the last meeting was, that it is the duty of the secretary to inform exhibitors just where their entries should appear, and to enable him to do all this we should pay a liberal salary and provide for capable assistants. Men come with their horses to exhibit and they have no definite idea of the arrangement which divides them into classes. There must be some officers to give them the information or these mistakes

will certainly occur. Of course this comes within the province of the secretary's duties, but if mistakes do happen, after all possible care to put things right, why there should even then be means of correction. There should be some competent body, having jurisdiction which may right errors and restore favor to those who vex themselves by many entries.

Mr. DONALD, of Veteran, made facetious remarks about the carriage team which so deeply excited Mr. Carr's compassion by being forced into the farm class. He said there was no mistake made as alleged. One of the horses in question he raised and worked until he found he was not good enough for a farm horse, and then sold him to a purchaser who procured the same day a mate, and called the pair a carriage team, but they had no qualities to entitle them to that designation, and were very properly entered as farm horses, except that he did not regard them as good enough for that class. If the Secretary told the exhibitor to put them in that class it was the best that he could do and proved good judgment on his part.

Mr. DAVIS, of Schuyler County.—I was in hopes to hear and see in this meeting something which would instruct the managers of our agricultural fairs in the best plans of conducting them so as to bring about the greatest good. These fairs are comparatively new features of our amusement and should be so managed as to furnish profitable enjoyment to farmers and their families at a season of the year when the crops are mostly gathered, and there is season for social gatherings. We are social beings and must have some time and occasion for social intercourse. Years ago we used to have general trainings, when the youngsters would expend a little money in sight seeing and for the purchase of ginger cake and sweet cider, and had a good time

generally. We have passed by all that now ; for the old-fashioned way of making soldiers was found too slow. Three days drill on the modern plan is said to be more efficient than all the general trainings we ever had. So these social gatherings have faded into the past, and we have substituted county agricultural fairs, at which there is a great deal to be seen besides agricultural productions. Now when farmers first established these shows they were as good as good could be, in the show of the finest productions. Every hard working, honest farmer went to see the best calf or horse or pumpkin, and he took along the best products of his own industry, and the young folks gathered there with a little money for innocent enjoyments. Now all is very different. There is a very great change in the whole plan. Enter the gate of one of our modern fairs and the noise and hubbub is such as one would expect on entering bedlam. There are peddlers of all kinds of gew-gaws shouting themselves hoarse over their worthless wares, in hopes to get the money which used to go for ginger bread, and if they leave anything then gamblers with their tempting games displayed in every corner to rob our youth of their cash and their purity.

PRESIDENT HOFFMAN—It cannot be the gentleman has ever visited Chemung county fairs. None of these things have ever been known, nor will they be permitted on our grounds.

MR. DAVIS—I supposed all fairs were very much alike, but my observations are made in the Schuylcr county fairs. What we want is to get farmers to attend with their best cattle and sheep and corn. And their wives and daughters, too, with bouquets of flowers ; and mechanics should go with their goods ; and then, having brought together so many excellent arti-

cles, all should have a good time together without the riotous sports that disgrace our fairs. But when all these things are brought in for display there is a class which set to work to see how much money is to be made out of the honest toil of these men and women. The farmer's daughter makes up the finest bouquet she can plan, having cultivated the flowers with her own hands at such times as she could spare from drudging work, and she carries it through the village exulting in the prospect of a moderate premium for her taste and skill, but some town lady, who never soiled her hands in the flower garden, sees the beautiful thing, and forthwith resolves to make another more showy, with which to rob the poor girl of her just reward. So she sends out and buys or gets, by any means, flowers to outdo the modest bouquet, and if she cannot get the premium without, she manages to buy up the judges. All this time of the show there is another class which is constantly striving to get the farmer's last dollar, and then get him as deeply in debt as possible, compelling at last a mortgage on his farm. There are merchants who keep busily engaged in their schemes during the days of the fair, instead of closing their stores as they should, and go in to show whatever they have to please the eye, and refusing to sell until the show is over. The truth is they want to make all the money and then sneer at the fair, saying, "How poor it is !" while they have done their best to make it so. I do not know how you manage your fairs here, but these cheatings and gambling practices are common in Watkins.

JAMES McCANN, President of the Society—Our friend will do well to visit our Fair next week, where he will find none of the irregularities of which he complains.

As we have met to devise plans for improvement, it seems to me we cannot do bet-

ter than to call up President Hoffman, who has spent the week in attendance at the State Fair, and who will, no doubt, be able to report his observations in such a way as to afford us some valuable suggestions.

R. B. VAN GORDER—We took him for counsel and instruction in all these matters. So I join in the call on the president.

PRESIDENT HOFFMAN—I cannot regard myself as an instructor, but I am glad to say that the arrangements for the approaching Fair are more carefully considered, I believe, than ever before in the history of our Society, and as far as I know, great effort is made to carry out the plans. The premium list has been arranged with great care, the light of past experience aiding in the work. It was thought that some of the annoying errors of which members have freely spoken, were due to the haste in making entries at the last moment and while the fair was in progress, and there has therefore been a rule adopted by which entries are to be closed a few days in advance of the opening, thus giving time for the arrangements. The rule being new many seem to have failed to observe it. Perhaps it has not been pressed sufficiently on their notice, and the result now is that there are many desiring to enter worthy articles for exhibition and to-night the time expires, thus shutting them out unless the rule be relaxed. This closing of entries in certain classes some days in advance of the fair is a new feature with us. The State society closes its entries thirty days beforehand, giving time for full preparations, and the plan seems to work well. But to meet the wants who have failed to understand the requirements which is now with us, I recommend that in the present instance the time for entries be extended to Wednesday, the opening day, at two o'clock in the afternoon.

As to the entries that happen to be

made in wrong classes there should be somebody to put them right. Perhaps this would fall within the duties of the department superintendents. As general superintendent, I should not undertake to change entries. If a case should happen where the entry is clearly wrong, I should appeal to the secretary's books, and if there should appear an error arising from the misapprehension or ignorance of the exhibitor, I think through the superintendents and the secretary it could be corrected. When the goods are properly assigned to their several departments and the judges put in charge, it is the duty of the superintendents to see that every thing is brought to their notice, that nothing escapes inspection. The Judges, I believe, are, or may be, clothed with sufficient power to protect themselves against undue influences by importunate exhibitors. It is their right to ask any questions relating to the characteristics of the entries that come under their observation, and they are entitled to such information, but they need not accept extravagant statements by interested parties. I hope judges at our fair will take such statements, especially of the produce of fields or dairies, only for what they are worth. I have just heard a case of this kind where loose statements are put forth as facts. I was deputed to judge farms entered for premiums with the State society and with others visited the place in question. Certain printed questions are submitted by the Secretary requiring answers by the applicant, which are to be filled in the blanks. Learning that the farmer had received the form, I asked, Have you answered the questions? "No, not yet." Will you? "Yes, yes, I guess I can all right." "Do you keep books of account for your fields?" "No, but then I know about how things are." The fact was he guessed his potatoes were planted at such a time. He guessed the product was so much. He guessed he had sowed so

much seed in a grain field. He guessed there was so many acres in it. Now when we make these guesses the basis of an award we are very likely to do injustice to some more accurate and more honest competitor.

In regard to gambling at fairs I am glad to say it has not been countenanced by our society, and I hope it will never be. I know it is a feature of some of our neighboring fairs, ranging from the grossest kind to that which attends horse racing. I regret that it has been judged best to admit trotting for horses at our approaching fair. I want these shows kept purely agricultural, and would be willing to accept the condition that if they cannot be sustained on that basis they should go down. But having admitted the race, for such it is, let us do the best we can with it and restrain the evil tendencies as far as possible. I do not believe we can make it reputable, but let us do what we can in that direction. I hope the time will come when the State appropriations to county agricultural societies shall be withheld from all which permit the mixing of races with the agricultural shows, and the sum so withheld shall be apportioned to those societies which exclude these immoralities. As to the gaming tables and the scenes that surround them, I can assure our friend who sees so much to condemn in his own county fairs, he can visit our fair without having his sight offended in this respect, for so long as I am superintendent no such practices will obtain admission to the grounds. [Applause.]

JESSE OWEN.—It happens often that the judges who are expected to serve do not appear. Should not authority be given to the superintendent to fill the vacancies after consulting with the executive officers?

President HOFFMAN.—That is really the duty of the executive board, and for this and other work it should be conven-

ed every day of the fair, but custom has put the work on the superintendents.

Secretary CURTIS.—Although deeply interested in the fair, I did not come here to make any remarks. I expected my part to be criticised, and desire to profit by criticism. As to the case of the dissatisfied exhibitor of last year I have no knowledge, but if gentlemen will call to mind the rush and pressure at my office when so many of these entries were made after the fair had opened, they will only wonder if there were not many wrong entries. I think I may congratulate myself on the fact that no others are reported here. But even this may not have been my fault. Men come to make entries of their horses, and after looking over the classes point to that in which they desire to be placed, and the entry is so made, although it may not suit them after they find other entries to compete with theirs by which they feel assured their chances for premiums are damaged. Sometimes in such cases they desire to go into more promising classes. I can not see that it is my duty to assign them places. They should be better able to judge of the merits of their stock than I am. Of course, if there is an error discovered it should be corrected, no matter who is the author, but when this is done there will always be dissatisfied exhibitors. The case to which allusion has been made was the main reason for changing the practice by closing the entries some days in advance of the opening, hoping thus to avoid the confusion incident to the hurry and bustle of the first day. The books have now been constantly open at my office for two weeks, and for the last four days at the Hathaway House in this city. For the first two of these days but little was done, for exhibitors would come in and ask a few questions and then say, "Well, you will be here a day or two yet, I will come again." There is always this dis-



position to put off until the last. Still there is the advantage in the early closing of entries that it permits the Secretary to transcribe the entries in a proper manner, by which he may detect and rectify mistakes. The Society acts in good faith to all exhibitors, and the officers are always anxious to give fair treatment.

The question of judges is one which has always given much trouble. There are delinquents, making hasty appointments necessary, and when the very best that can be done, is done, there are charges of favor. For this reason especial care has been taken this year to appoint judges in some of the more important classes of horses, resident out of the county. These gentlemen so appointed have been notified by letter and some of them have given their promise to attend while others will not be able.

It would relieve me very much if the executive board would meet daily and fill all vacancies. So far the entries are very satisfactory, especially in horses and cattle, and there seems to be a lively interest in the first.

It is true I meet once in a while a man who carries the recollection of a real or fancied wrong he received fifteen or twenty years ago from the society, and he informs me that he "will not exhibit until that thing is settled," and then other men are occasionally met who say, "Get me a place within the ring and I will go in." The utter absurdity of these suspicions is only laughable.

Mr. DONALD, of Veteran, asked numerous questions in regard to the exhibition of old productions, such as beans, buckwheat, clover seed, etc., which seemed to demand answers, but this being a meeting of the Farmers' Club, nothing authoritative could be said. The club therefore adjourned, when President McCann called an executive meeting of the officers of the Chemung County Society in which these questions were discussed and it was

decided that the products spoken of by Mr. Donald might be exhibited whether old or new, and it was also resolved that the time for taking entries in all the classes be extended to two o'clock P. M., on Wednesday, the opening day.

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SATURDAY EVE., OCT. 3, 1874.

At the close of the last week the Club tendered its hall to the executive committee of the County Agricultural Society, the fair having just closed and the reports of committees with their awards of premiums then pressing for consideration. The offer having been accepted, the Club held no meeting for discussion. So at the present meeting no speaker had been selected nor any subject assigned.

Two weeks ago a partial report was made of the product of a few seedling potatoes given to the Club by Mr. Davis, of Reading, Schuyler county, five or six in number, each of whom was expected to give good cultivation and care, to develop the true characteristics of the seed. Mr. G. S. McCann made a detailed report of his potato and the product at the last meeting. His opinion of the yield was favorable, but he objected to the roughness of the new potatoes, there were too many nubby protuberances. At this meeting several of the experimenters were prepared, not only with their reports, but with baskets of potatoes to exhibit. The first to make his statement was Mr. Heller, who said:

"I planted my potato on the 27th of April, having cut it to single eyes, each of which was the seed allotted to a hill. The situation was a calf yard, and I think the ground was too rich to produce good potatoes. The spot selected for this seed was where the trough had set for feeding the calves, and of course was very rich, which accounts for the knotty

appearance of the product. The yield from one potato was a half bushel, which may be counted as good. But there is something about the yield which makes it look like the product of impure seed. Here are potatoes streaked, spotted and of the original seed, looking like so many varieties. Perhaps on poorer ground, or rather on ground better suited to the growth of fair potatoes, these would have been smoother and of more even appearance, but with my present observation, I prefer the early rose, specimens of which I have to show in comparison. From the Davis potato I had one hundred and five potatoes of a suitable size for the table, and fifteen or twenty small ones, which, so far as yield and size go, were well enough, but the prongs are a serious objection if they are a characteristic of growth."

Mr. DAVID CONKLIN—I received one of these Davis potatoes for trial. I cut it in pieces and planted on the 15th of May, and dug the product on the 25th of September. The seed weighed nearly one-half a pound, and the crop was seventy-six pounds of very knotty and rough potatoes, and many of them small. There were but few merchantable potatoes in the lot, perhaps not more than one-third. The potato planted was a red one, but those raised from it differ very much in appearance. Some resemble the peach-blow, others the pinkeye, others the early rose, and one is a long white potato like the Prince Albert, yet generally they were red, and as knotty a lot as you would care to see.

W. S. CARR.—As compared with the early rose, my preference would be for the latter. I had one of the Davis potatoes assigned me, and the product was knotty and irregular in character, although the yield was good—about a half bushel from one small potato. It is two weeks later than the early rose, and I can not see in what respect it is better.

I have not tested its cooking qualities.

Now I would like to ask if this prongy character is not produced by raising the crop on too rich land? The seed left us by Mr. Davis was smooth, but here comes all these samples covered with rough prongs.

President HOFFMAN.—No doubt the land was too rich, and that accounts somewhat for the roughness. I have seen the early rose grow like the samples here shown, when the explanation was the richness of the soil. As to the various colors and appearances presented by these potatoes, I should say that the seedling had not been grown long enough to have its characteristics fixed. It is not thoroughly and perfectly established. It is the experience of those who raise seedling potatoes that not one variety in a hundred of those produced is worth propagating, and besides many that do well in the first three or four years then prove worthless. No doubt this seedling presented by Mr. Davis was good in his hands, but with us it has not proved desirable, and has nothing to commend it over the early rose and other varieties.—Enough having been said of these potatoes, let us now consider other matters. No subject having been selected for discussion at this meeting, let all feel free to speak of any matters of interest. Since we last met our county society held its annual fair, at which I trust many of you have learned important lessons. For self I think I have learned several as superintendent. I have learned something of Agricultural horse trots. In the last race, which, however, I did not see, there were four horses entered, and to prove the honesty of the test, general rumor has it that only three of the horses were sold out. Of course there must have been one honest trotter!

But I learned more important matter touching our agricultural productions. I saw wheat taken from a field where one

acre produced fifty-five bushels, fine, nice Diehl wheat. That was quite worth seeing. Long ago I expressed the opinion that land used for raising tobacco was thereby put in the best condition for raising wheat, and now that opinion is confirmed by the story of this crop which was raised on tobacco land. I doubt if even a summer fallow is as good fitting as the preparation given by raising good crops of tobacco. There is the necessary fertility and freedom from weeds. And then we had corn on exhibition which was gathered from a crop on Mr. G. S. McCann's farm that gave two hundred and ten bushels of ears to the acre, or at least from the one acre which was reported. We are pleased by such an exhibition, but there was even a larger yield—two hundred and forty bushels of ears from one acre, produced on the farm of Mr. Owen. Here are lessons to consider. I would ask, if such a crop may be raised in this valley on one acre, is it not a fair inference that it can be repeated on another acre? The same fertilizing and the same care would produce two acres or ten acres of such corn to be reported at future fairs. It may be an expensive job, no doubt it is, but it shows that the capabilities are here. Mr. McCann reported a very liberal application of manure, fifty-two big loads on his acre. Very well. He is rewarded by a great yield of corn this season, and he has not yet exhausted the virtues of the manure. He will be able to note its effects on the next crop and the next, and I do not know how much further. He has made something like permanent improvement. If we can produce such crops, and not know how to keep up fertility, we should go to school and learn how.

Mr. BILLINGS—I would like to have the production of Mr. Owen's acre, kept by itself and shelled when the proper time comes, to see how it would hold out.

Mr. OWEN—It was not kept separate, and is now fed out.

Mr. BILLINGS—Was it measured or weighed, and if weighed, how many pounds were allowed to the bushel?

Mr. OWEN—It was both measured and weighed, but having had nothing to do with the raising or handling, I can not say how many pounds were called a bushel, although I do not doubt the usual estimate was accepted.

Mr. HOTCHKIN.—At the west seventy-two pounds of ears are called a bushel from the time of husking until the first of January, when it is supposed to be dry, and about seventy pounds are the allowance thereafter.

G. S. McCANN.—My acre did not pay for its cost by a great deal. Fifty-two loads of fine manure were used on the land, and every load was well worth two dollars. Of course 210 bushels of ears will not pay that cost; but besides that there was the labor, which was great, for everything was done that was needed, so far as we know how, to encourage growth. We really had two hundred and twelve bushels of ears, for one pile of two bushels was found husked and overlooked when the measure was made.

Mr. HOTCHKIN.—Three or four years ago I bought about a thousand bushels of as nice gourd seed Western corn as I ever had, and it was raised on the Genesee flats. Now, I ask, is it certain that such corn can not be raised on our flats?

Gen. DIVEN.—What advantage would it give if we could raise it?

Mr. HOTCHKIN.—It is generally understood that it is better than our varieties for feed, because there is more nutriment in it. It is thought to be better for all purposes. It will even make more whiskey.

President HOFFMAN.—While I cannot inform Mr. Hotchkiss about the possibility of producing the gourd seed variety here, I can state my observation of some experiments made with Ohio corn thirty years ago we planted it in the hope of improving the yield, and from the crop raised we planted again, when it was plainly seen it began to put on the characteristics of our corn, thus adapting itself to the situation. The stalks were reduced in height, and the growth less luxuriant. It was later in ripening, and on the whole the experiment was not deemed worth pursuing, so it was abandoned.

Mr. OWEN.—The President spoke some time ago about the fitting for tobacco being excellent for wheat and yet tobacco is generally considered an exhausting crop. My experience has been that it leaves the land in excellent condition for any grain which may follow, including wheat and rye. The soil is loose and free from weeds, and if good crops of tobacco have been raised there is abundant fertility for producing full grain crops.

When the great yield of corn was produced, which our farmers reported at the fair, no manure was used. Eight or nine years ago the field was in poor grass, not having sodded well, and was plowed well and planted with corn, giving the largest yield we had ever obtained then. After that a grain crop was raised, and on that clover and timothy were sown and a good sod made. Ever since it has been mown or pastured until this crop, when the sod was turned over and planted, giving the largest yield we ever had.

President HOFFMAN.—I hope both Mr. Owen and Mr. McCann will, at some future meeting, give us the precise figures of the cost of production so that we may have the full lesson.

Mr. BILLINGS.—Don't Mr. Owen think tobacco is an exhausting crop.

Mr. OWEN.—I never raised much and

therefore cannot say from my own experience, but I know it is so regarded.

Mr. BILLINGS.—I never knew a man to plant it on his poorest field. On the contrary, it always has the most fertile land, and this, after being stimulated by manure, to enable it to produce full crops of tobacco, is left with enough fertility to produce less exacting crops, but I apprehend that the mere fact that tobacco has been raised does not constitute any fitting for another crop.

Mr. OWEN.—My father has been a farmer for more than fifty years and he regards corn as one of the most profitable crops which he raises.

Mr. JAMES McCANN.—Last spring, in discussing the average production of corn, it was estimated that thirty-five bushels to the acre was a full average for the corn lands of this valley. Since then I have conversed with many farmers upon this matter, and as many as three out of four pronounce the estimate too high. I am inclined myself to consider it so. These crops reported at the fair should not be considered in estimating the average yield. It is not fair to put them forth as anything like a possible average. So far as George McCann's crop is concerned, I know it would be unfair, for that had very costly preparation, as he has told you, and I know it had everything done to promote growth. Besides all that, this has been a very fruitful year, bringing all the advantages together. I am satisfied thirty-five bushels to the acre is a full average.

Gen. DRIVEN.—And so I think. Some fields yield thirty-five bushels of wheat to the acre under favorable circumstances, but the average is much less. According to statistics gathered a few years ago the average yield of wheat in this State was estimated at twenty bushels to the acre. In Pennsylvania it was less, while in Michigan it was only seventeen bushels to the acre.

Whether it is profitable to raise corn or not depends on the ground used, whether that is suitable or not. I had a piece a few years ago that produced a little over one hundred bushels of shelled corn to the acre. Before that crop the land was in meadow, but finding it difficult to get a good firm sod I planted it and raised that good crop of corn. The situation was suitable. The same field is again in corn, the sod having again failed. It was plowed last fall and was planted in the usual season. Not much care has been given to it, not what it needed, but I invite any gentleman present to visit it, and I think that he will see that it is as good as the crop which Mr. McCann has reported, raised by so great an expenditure of manure. The simple reason is that the land is suited to the crop. Oats will not do well on that field, nor will rye. They will lodge. I want the field in grass, but I am at a loss to know the proper course to establish a good sod on it.

I have raised corn on the gravelly flats, but I do not regard such soils as the best for the crop. I used to prefer a good clover lea, but of late years the plants have been so much injured by worms that I have formed the habit of using stubble lands, which are less infested with these pests.

W. A. ARMSTRONG. Should we not expect on good corn lands at least twice as many bushels to the acre as the average production of wheat in the State?

Mr. HOTCHKIN. I think as much as that, or more, might fairly be expected, and if so, there ought to be profit in raising corn. I cannot see that there is much more cost to cultivate an acre of corn than to perform all the operations on an acre of wheat. Corn can be kept until paying prices come, if not enough is offered when it is produced. Two years ago there was little variation in price for a whole season. I had a car load arriving

from the west every week in the year, and it cost me there twenty-two cents per bushel, put in the car and started. Our farmers in this portion of the State may be considered as having good business if they can produce of corn double the average of wheat, and, on suitable lands, my observation is that they exceed that.

Mr. OWEN and Mr. CARR presented arguments to show that Mr. McCann's cost of production was improperly estimated. The stalks had not been counted at all and thus it was entirely wrong to charge up the whole cost of manure, much of which must remain to augment fertility. Mr. Owen raised the query, might not ten loads of manure, applied directly to the hills, have produced just as good a crop as the whole spread over all the surface? If so, he insisted forty-two loads should have their cost charged over to future crops. Both declared that such crops could hardly be reduced without profit, direct or indirect, and if a fair division of benefits were made in almost all cases direct profit would be shown.

Later the discussion ran upon the proper means of saving winter fruits, especially apples, but as the hour of closing arrived it was found that the fruit raisers had so many facts to report that the next meeting would have its time fully occupied in considering them and the subject was accordingly put over, with Messrs. DAVID CONKLIN and FLETCHER CARR assigned to the opening.

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SATURDAY EVE., Oct. 10, 1874.

At the meeting of the club a week ago, President Hoffman put the inquiry, at a late hour, "What are the best ways of preserving fruit for winter?" The rule being to close discussion at precisely nine o'clock, there was not sufficient time to narrate the practices of the several members who rank as successful fruit raisers, and who give careful attention to the saving; but there were several

who gave brief answers, showing that it was possible to preserve ordinary winter apples to the next spring, or later. Among these, Fletcher Carr and David Conklin detailed experiments by which fruit which commonly perishes during winter, had been kept in good condition months later, and without great expense of care or labor. Mr. Conklin, speaking of the proper time to pick apples, said: "My crop of apples requires about two weeks for the careful picking, for at this season there is always more or less bad weather, so in order to finish as early as I like, I usually begin on the first of October. I think the later picked apples keep better than the earlier."

Gen. DIVEN.—May not that be owing to the fact that they are better ripened? Immature fruit will not keep well, and there are varieties of winter apples which, on the first of October, hardly have thorough ripening. The best success I ever had was one season when my apples were picked so late that there were fallen leaves in which to pack in the barrels. The leaves were gathered and a layer placed in the bottom of the barrel and on that the apples in a single layer, then leaves again and so the barrels were filled with alternate layers of leaves and apples. The fruit kept perfectly until the next summer. I do not remember now whether the leaves were the fallen ones from the apple trees or not, nor do I suppose it is of any importance. Cut hay or straw would probably be quite as good. The idea is that the fruit was saved from pressure and kept from contact by which the long keeping was promoted.

President HOFFMAN.—I made a experiment once with Esopus Spitzenburg apples, wrapped each separate one in paper and so packed in barrels and put away for winter keeping in a cool cellar. They kept in good condition until late in May, but when the wrapping was removed I noticed the apples very soon decayed.

Those not so preserved rotted long before. For late keeping I should recommend wrapping each apple separately, or in some way to save them from contact and from exposure to the air.

Gen. DIVEN—Yes, and keep them out of a cellar in which there is a furnace.

Mr. BILLINGS—Will not tightly headed barrels of apples keep better than open ones? I believe so, and that they will keep even better than on racks.

Mr. CONKLIN—I never head mine up for winter keeping. I fill the barrels and leave them in a cool place until severe weather, when they are removed to the cellar and set in tiers one on another as high as the situation will permit and the topmost barrel loosely covered.

Mr. HELLER—I have had better success with tight heading and stowed away in a place as cold as possible without danger of severe freezing. Even if the apples freeze a little in the barrels they are not hurt by it.

Mr. CONKLIN—So far as the cold is concerned that is right, I believe. There is frequently frost adhering to the inside of my barrels, but no hurt comes to the fruit.

Gen. DIVEN—Most of my winter apples are brought from Watkins, where they are kept in a cool cellar, coming out sound and fresh, but very soon after putting them in my cellar, where there is a furnace, they begin to decay.

At this stage of the discussion it became evident that the evening would not suffice for all to express their views, and accordingly the subject was put over to the present meeting, with the saving of vegetables for winter use added, and Messrs. Fletcher Carr and David Conklin appointed to open the discussion. But as the hour approached the closing shower of the rainy week set in with an accompaniment of thunder which kept

timid members at home, by which the meeting was made very thin in numbers. Even President Hoffman did not appear, but his place was well filled by George S. McCann, for whom lightning and thunder, rain and mud, and even political conventions have no terrors, for with a fresh experience of all these he was promptly on hand and ready for duty, and quite unable to comprehend the reasons which deterred his brother farmers from attending the club. After uneasy delay in expectation of the fuller attendance, he called to order and announced the subject. Mr. Conklin failed to appear, but his young associate, Fletcher Carr, was on hand and on him the chairman called.

FLETCHER CARR.—My experience in keeping winter fruits has not been extensive, but I have made some experiments with apples by which I have gained valuable knowledge. In the first place let me say, that much depends upon the picking. If this be not carefully performed no efforts at long keeping will be successful. The only true way is hand picking and careful placing of the fruit in baskets, to be as carefully removed to the receptacle in which it is to be finally stored for winter keeping.

Two years ago I picked two barrels of Northern Spy apples on the tenth of October. All imperfect specimens were rejected, only the finest being packed, and these were wrapped separately in paper, and when so enveloped packed carefully in the barrels and set away to save as long as they would, first in a place where the temperature was just above freezing in fall weather, and after three or four weeks, when danger was imminent, they were moved without jolting or rough handling to the cellar, where the lids were a little tilted, in which condition they were left undisturbed until the tenth of May, when they were opened for examination, and there were only three or four apples in each barrel exhibiting

symptoms of decay, doubtless imperfect specimens when packed, which my care had failed to detect. Satisfied that further preservation was possible, the sound fruit was again wrapped and repacked, and so kept until the fourth of July, at which time it was taken out for use and found to be fresh and juicy, fully preserved and with the mellowness of ripe fruit. For another experiment I took one barrel of Rambos, picked in like careful manner, and packed in a barrel specially prepared by having slats fastened through the middle to support the fruit and leave a space for ventilation, which was supplied by holes bored through the staves, permitting free circulation of air through the space cut off by the slats, and of course giving a restricted circulation around the fruit. These apples kept well but not near as long as those in the other case wrapped so as to nearly exclude all air.

I tried one other barrel of Rhode Island greenings packed in dry chaff, without other means of preservation, and that was an expensive experiment for I lost the whole.

In my judgment the main requisites to late keeping are careful picking at the right season, as careful handling thereafter, and no more than is necessary, and separation by such means as I have indicated, which I believe will prove successful in every case where the fruit is of the right character.

As to the keeping of roots and vegetables I do not feel as well prepared to speak, but I may say that in such experiences as I have had, beets, turnips, and other roots have kept well packed in dry sand, by which the air and light are excluded.

The chairman stated a case of several hundred cabbages now spoiling by the cracking of the heads, and asked if prevention were practicable. He had heard it said that lifting so far as to start the

roots would check the evil, but a trial proved wholly inefficient.

Mr. BILLINGS.—You can stop it by lifting them quite out of the soil and inverting them, in which condition they will probably keep until the proper season for making sauerkraut, which is the best thing to do with them. You have probably made a mistake in setting, getting them out too early. Winter cabbage should be set so late that at this season of the year the heads shall not have reached full size, as they do before cracking. This month and the next are the best for the growth of heads for winter use.

As to keeping apples, grapes and other fruits, I never have any trouble after they are put in the cellar. It comes before that, while exposed in the orchard to thieves. If any one can tell me how to keep the accursed thieves away I shall have no trouble about winter keeping. Not a day passes but these marauders lug away bushels from the orchards in this vicinity. Even now I dare say the reason Mr. Conklin is not here to tell what he knows about keeping apples, he is engaged in watching his orchard to keep some portion of the fruit for himself, for without such watching the thieves would get all. There are men, women, boys and girls every day and every night from the time his apples get big enough to use until they are all stolen or gathered, carrying away immense quantities gotten by open shameless theft.

Mr. HOTCHKIN.—I would suggest, as the best means of preventing these losses, that Mr. Billings gather these thieves into the Sunday School and give them instruction.

Mr. BILLINGS.—No, that will not do. They are not going to be gathered for any such purpose. They make a business of gathering supplies on Sunday as long as there are nuts or fruit on the trees.

Mr. HOTCHKIN.—Well, say they have the instruction in winter then, when there are no enticements on the trees.

Mr. BILLINGS.—I must be permitted to doubt the efficacy of such influences.

Mr. OWEN.—If Mr. Billings is ambitious to become an office holder, the law makes him a deputy sheriff with power to arrest any trespassers on his orchards. Our laws have thrown every safeguard that legislation can provide around our trees and vines to preserve their fruit from such depredations, and yet I know that there are great losses sustained by those who attempt fruit culture in the vicinity of a city. A crop of nuts, especially, for miles around is never left to the peaceable possession of the owner, however much he may prize them for winter use. The general testimony of the owners is that this discouragement is too great to make profitable culture possible. Unless something can be done to create a wholesome public sentiment in regard to this matter, it would be as well to let all in together as freely as they please.

Mr. BILLINGS.—I have hickory trees which produce great crops of nuts amounting to many bushels, which I should like to have at least to supply the wants of my family and a few friends, but I rarely get a pint. I could submit to this if it were all, but the effort to save brings upon me the most opprobrious epithets from the vile thieves against whom there is no adequate punishment, at least for the abuse; and for the depredations, if an owner would have the penalties inflicted, he must take a great deal of trouble and this abuse which is worse. To-day I arrested a man in the act of gathering nuts from my trees, a full bag of which he had secured, but while fully intending to take him to the Recorder to be dealt by according to the statute, I was overcome by his plaintive pleadings and fine promises to abstain from similar theft in the future, and so gave him his liberty and



his booty. We buy land and pay the taxes and are robbed by day and by night of the fruits which are our own. We are too tender to bring punishment upon the offenders, while they are tough to stand all the odium of theft and bold enough to heap personal abuse upon the anxious owner if he ventures to make a feeble, modest effort to preserve some portion of his own fruits for the use of his family.

S. M. CARR.—Those charges are too true, but I think something might be done if the offender could be brought into our Sunday schools or otherwise under religious teachings. Certainly these are restraining influences, but those who steal do not enter the places where better practices are taught. It is a sorrowful fact that on any fine Sunday those of us who go down Walnut street to church may see two or three clubs of young men engaged in ball playing. They do not go to church—their parents do not go. The law prohibits this desecration of the holy sabbath, and yet the shameful spectacle, of which I have spoken, may be seen to-morrow if the day is fine. And those who go to church from this vicinity will return to find their trees despoiled. The day is chosen by the reckless evil ones who abound in the city, for spoliations through a circuit of miles around. Something must be done to check their lawlessness even if it be only in the interest of preservation of the peace and the quiet of the well disposed citizens who suffer long before they take the necessary steps to protect their private rights.

The discussion of this matter consumed a great part of the session, because every one present had a grievance, the outrageous thefts of fruit reaching every one. The general sentiment seemed to favor vigorous application of the law until a wholesome public sentiment regarding private rights should prevail. The great laxity of morals in this regard was

well illustrated by one gentleman, who narrated to a knot of listeners after the adjournment, a story of a minister who called to make a parochial visit at the house of a parishoner, and finding the doors closed and the family absent, he took a stroll about the grounds. Espying a young pear tree with ripening Flemish beauties hanging on the branches, he plucked eighteen in number, which was all the tree bore. These he carried away, probably without a thought of wrong doing. But the truth was, they were the treasures of the owner, carefully watched and preserved with a sentiment a kin to affection, because they were the first fruit to reward years of care in the rearing of the tree, and this reward appropriated—yes, stolen by his spiritual guide and instructor.

The keeping of grapes received brief consideration, none of the members present claiming to have much experience, and the principal speaker, a gentleman whose observation was extended, he having traveled through the finest grape districts of the world, carefully noting facts, and therefore well able to instruct, gave free expression to his opinions, but modestly requested that no report be made of his remarks, because not having personal experience, except to a limited degree, readers might be misled by his observations made during a few months of travel in a land where the practices were all new and therefore liable to be misapprehended.

Mr. Thurston gave his experience in handling grapes for the market, in which he had been instructed by a foreign raiser, who taught to gather the clusters without touching them, and in all the future handling to avoid removing the bloom by contact with the hand. His packing was affected by alternate layers of papers and clusters in boxes of fifteen or twenty pounds capacity, of such depth as to receive about four layers. From the clusters all immature grapes were

carefully removed by pointed scissors, and great care was taken to pack with full freshness, in which condition he claimed they might be kept through winter. He had sold many hundreds of pounds of the grapes so picked and packed, and in this market they invariably commanded from three to six cents per pound more than other equally fine fruit, more carelessly handled. An important matter he regarded the lifting the lids to allow the escape of evaporated moisture, and he recommended also that picking be done while the vines are quite dry.

The heading of barrels of apples again coming up for consideration, the opinions of members were divided as to the propriety of the practice, many being in favor of complete exclusion of the air and pronouncing the so-called "sweating process" a complete delusion. But all agreed that very careful handling from the boughs to final use, was a necessity to insure late keeping, and there was also complete agreement as to the necessity of a low temperature almost to freezing, to preserve flavor and freshness, as well as to prolong the keeping.

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SATURDAY EVE., Oct. 17, 1874.

There was again a light attendance, partly owing to the interest felt by many members in a political convention in session at Horseheads. The same influence operated to reduce the attendance at the last meeting, although the few who were in, engaged earnestly in the discussion. In the history of the Club the fall meetings immediately preceding the annual elections have been lightly attended, partly because of the considerable interest felt in the selection of men well suited and qualified for the places to be filled, and partly because at this season there is work to be done needing all the strength and energy of farmers. Much of the excellent corn crop is yet unhusked, and thousands of bushels of potatoes

are yet in the ground, besides the orchards on many farms have yet their burdens of fruit. It is not wonderful that when Saturday night approaches, men who have labored diligently in their fields during the week are reluctant to go out of their way to discuss the subjects with which their physical energies have grappled until they are worn to the last degree of endurance. The farmers who are active members of the Club are themselves vigorous laborers in their own fields. They are very sure to gather their corn and potatoes and apples before they give time to discussion of the methods. All this done, they come in to talk of the lessons they have learned, whether by success or failure, to devise plans for the future, and to develop those social qualities which give the chief enjoyment to farm life. A month later the chairs now vacant at the Club meetings will be filled, and the list of speakers will have a corresponding increase, giving zest to the discussions and creating an interest which will extend over the wide field where these reports are read.

President HOFFMAN called to order promptly on time and elicited from John Bridgman the first remarks which related to his personal want of fall pigs, which reminded the President that he himself had vacant pens to be filled when the proper stock should offer.

W. A. ARMSTRONG suggested the purchase of thoroughbred Essex or Berkshire, instancing the stock of Joseph Harris, of Rochester, and expressing the belief that more profit would be derived from the feeding of such pigs, even for home use, than from the mongrel in common use.

Mr. BRIDGMAN made the objection that the first cost would be so high as to prevent all profit in the feeding, to which answer was made that breeders like Mr. Harris who desire to sell only those animals which approach perfection, for the

purpose of breeding, have always in their full pens specimens exhibiting faults in shape, lacking that symmetry which they have fixed as a standard, and these having all the excellence for feeding of the handsome animals, because of their lack of beauty are offered at low rates for feeding, and if not sold for such use, are devoted to it by the breeders. It would be well if more attention should be paid to improvements in the breeds of pigs by which greater profits in pork making could be made. The great necessity now apparent in this valley is for breeds which will fatten easily. Pigs which will dress three hundred or more at eight months, make much cheaper pork than the course breeds which must have twenty months of feeding to reach such proportions, and the latter are as good as the average in this valley, while there is abundant proof that the crosses of the fine thoroughbreds on ordinary coarse sows, by good feeding, would easily make the weight named in the lesser time, and there was the farther argument that the pork so made is greatly superior in quality.

Instances were named of Berkshire crosses which had exceeded three hundred pounds weight at eight months old without a pretense of skillful feeding, and the argument was made that such success might just as well become general, if only the proper attention were given to the employment of pure bred males, looking always in the progeny to the capabilities of assimilating food rather than to color or great size.

MR. OWEN -- We have in our near neighborhood a breeder whose stock was originally procured from Joseph Harris, and who could doubtless meet the wants named. Mr. VAN DUZER, of whom I speak, had on exhibition at the late fair very fine specimens of Essex pigs, perhaps as good, for all purposes, as those offered by the older breeders. My farmer bought one of them, quite satisfied to pay

the small extra cost. It appears to me that the farmers in this vicinity are behind in this matter. There need be no fear that all animals and articles of superior excellence will fail of a market. The truth is there is no difficulty in finding purchasers for whatever we have that is good. If one could see the inquiries that reach our secretary, not only from farmers within a circuit of a hundred miles, but even from distant States, for everything which belongs to better farming, for better seeds, for nursery stock, and even for supplies which farmers generally produce for themselves. Even now he is publishing a Vermont call for winter apples by the car load, and in his office are inquiries for steel plows and other implements. Such demands come from as far distant States as Texas. It will thus be seen that we need have no fears of a market for whatever is good. This should stimulate us to improvement. Whoever moves in this matter will be very sure of profit. Our situation is favorable. Our facilities for producing are all we could ask; while the chances of marketing are beyond doubt far better than most of us realize.

MR. G. S. McCANN, who has been for some years engaged in experimenting with the breeding of Cheshires, ventured the opinion that the crosses were better for feeding than the pure bred animals.

The President observing in the hall Mr. Hiram Ketchum, of Ashland, who is a large manufacturer of cider, which has an extended reputation for excellence, and Mr. Carr, who also makes up thousands of bushels of apples every fall, seized the opportunity to bring out a statement of the processes by calling first on Mr. Ketchum, who said:

"The chief thing to be sought is a proper condition of the apples. To secure a good product, almost everything depends upon the quality of the fruit. First in

importance is ripeness. Apples must be fully matured to make good cider. Without such maturity the cider may be sufficient in amount, and may present a good appearance but it will be lacking in quality, and it will not keep as well. It does not have that richness, that body which is desirable and which is sure to be noticed in the cider made from fully matured apples with the other conditions of excellence, the most important of which is cleanliness. I have tried for years to study the proper requisites for the production of good cider, and I am prepared to say after all my investigation that the chief things to be desired are full maturity in the fruit, and cleanliness in all the process of making, including, of course, the gathering of the apples, and this matter is one in which there is great need of reform. Farmers are very apt to be very careless in picking. The apples are often gathered very late, long after they have fallen, and the grass has grown up over them, or perhaps the orchards are sown to wheat, and the fall growth covers the fruit, and the blades are picked and all put together in wagons which are dirty by other uses, and in this condition the fruit is taken to the mill to be made into cider as though there was no need of care to insure a good product. It is impossible to get good cider out of fruit gathered under such conditions, unless hand picking should select from the filthy mass the good apples free from dirt and fit to crush. It often happens that many loads of this carelessly gathered fruit, are filled in the bins with a large proportion of rotten apples to damage farther the cider, and from these mixtures of filth and rot the manufacturer is expected to produce a good kind of cider, when the truth is the task is impossible. Even without the rot there can be no hope of good cider.

"I have, by way of experiment, taken pains to wash and thoroughly cleanse the apples for a barrel or two of cider, using for the purpose a tub which would hold

two or three bushels, stirring these around in successive waters until they were made clean. Take any ordinary apples which do not seem very dirty, and two or three bushels will make a barrel of water look very nasty. The cider made from apples so cleansed has proved to be much finer in quality than the ordinary average from carelessly picked fruit.

"It would surprise many farmers to see what nice cider may be made from knotty, poor fruit, provided only these conditions of full ripeness and cleanliness have proper attention. It used to be claimed in days when cider was distilled for whisky, that such fruit gave the best product, and I am not sure but it did. There is no doubt they would produce more whisky than apples of mild flavor.

"As to the grinding, it is important that it be done in the proper manner. I think it is better that the apples be properly crushed rather than to have the flesh very much torn by graters. They are often so finely grated the pomace has the consistency of stewed pumpkin, in which condition it will not release the juice. It is something like rotten apples which prevent good yield and spoil what is made.

"With proper care in all the processes of making a barrel of cider, should draw down to the last just as clear as the first. I have made many such barrels and I have had many returned to be filled, when I would find two or three pailsfull of sediment consisting mainly of rotten pomace in the bottom of the barrel. Now that was all wasted to the purchaser besides the damage it effected to the cider."

President HOFFMAN—When your cider is well made and put in good barrels, can you keep it during the working, if the barrels are air tight?

Mr. KETCHUM—Of course not in ordinary barrels. They would burst if tightly bunged. I have heard of a man who had barrels made of staves an inch and a half in thickness, and well hooped, who put

in his cider and bunged it tight, the barrels being stout enough to resist the pressure. He said his cider kept sweet and fresh through two years when so confined.

President HOFFMAN—Do you crush or grate?

Mr. KETCHUM—I have crushed and grated. My first experiments were with the old Hickok mill, run by horse power. I could not set it fine enough to suit my ideas of the proper grinding, so I dressed down the grater and filed down the cogs in the effort to get something like crushing. I found better and better work followed my efforts. I then took the grater out and made a smooth cylinder which did not permit the apples to enter fast enough without a pressure from above. I provided for that, and now use one smooth iron cylinder and another smooth one of wood covered with zinc, in which tacks are driven thickly providing for grating. These run so closely that a small apple seed must be squeezed by the passage through. With these I can grind fifty bushels, and the ground product piles up below instead of spreading out in the vat. I have seen Mr. Lowman's mill, which is provided with a small cylinder, arranged to run at a high rate of speed, and it reduces the apples to pulp, by which I regard the yield as diminished, and the product is also inferior. I learned by experiment with a small hand machine that too fine pomace would not yield the juice. Take a handful of fine pomace from a cheese which has been pressed and watered until it will yield no more, and hand squeezing will show that it is still saturated. Besides the pulp mixes with the cider and injures the keeping properties. The great secret of keeping is in the cleanliness and freedom from pomace.

President HOFFMAN—If the ground apples are immediately pressed, is the cider as fine as when they are kept a few hours?

Mr. KETCHUM—No, I think it is better to let them lie a few hours. There is certainly better color and less of raw apple flavor.

President HOFFMAN—Have you ever tried Harrison apples, so that you can decide whether they are better for cider than the common kinds?

Mr. KETCHUM—Not exclusively. I have used them, but always in connection with others, so that I cannot say how desirable they are.

Mr. CARR—After a long experience in cider making, I feel prepared to say that the methods indicated by Mr. Ketchum are correct. Especially in the matter of cleanliness he has not enforced the lesson too much. Farmers are very careless about the picking. They do not seem to understand that good cider cannot be made from rotten fruit mixed with other filth. I remember one who brought his apples to my mill in such a condition that I could not receive them, and I therefore told him he could unload them for my hogs or draw them home again. One half or more of the fruit was rotten, and from that he expected good cider, which was simply impossible.

Much of the difficulty in keeping cider is chargeable to the pomace which passes into the barrels. Keep that out by any process and you can keep the cider sweet. If much of it gets in it tends to spoil the cider, besides the room it takes in the barrel. I can take cider after it begins to work and by rectifying in such a manner as to remove all the pomace, arrest fermentation. In one instance I did this in December and kept the cider fresh until the tenth of the next May. There is, however, a serious difficulty in the way of producing first-class cider. It is in the fact that not enough is paid for it to recompense all the care required in the making.

Mr. WINFRINGHAM, of New York—I have observed in Dutchess county the old

cider makers had a process by which they produced a very fine article. Issac Hayt, a noted manufacturer, made cider that kept well for years. I know he was very particular about the apples, and he ground them by much the same process as the gentleman who first spoke on this subject has described—one smooth cylinder of iron and another of wood. The cider went into large vats that would hold, say three hogsheads each. There it was suffered to remain until the pomace and other impurities had settled, and a scum risen also to the top, which latter would be the thickness of one's finger.—When this scum began to crack, the cider was drawn off into barrels or hogsheads, and so taken to New York, where it was racked off and bottled. In this condition I know of an instance in which it was sent to San Francisco and kept for ten years, at the end of which time it was not very hard.

Mr. HOTCHKIN—I have not much experience in making cider, but I can narrate what was told me by a Catholic bishop who was a fellow voyager, and with whom I had the pleasure of drinking a bottle which he said was made in Bordeaux. He described the process. The apples of which it was made were not ground. They were crushed by hydraulic pressure and the cider left in large vats until it reached the proper condition, when it was filtered, and after that rectified and put up in casks or bottles; I suppose fit for use. The bottle I consumed with him was remarkably fine.

President HOFFMAN—Will you give his address?

Mr. HOTCHKIN—He was the bishop of New Mexico.

Mr. CARR—The President inquired about the product of Harrison apples and was not definitely answered. While I have never made a whole cheese of this variety I have used enough to know that it is greatly superior to the ordinary kinds. Our farmers, I am sure, would be much

benefitted by setting largely of them for the sole purpose of producing cider apples. They are not large, but yield abundantly and make the finest cider.

Mr. HOTCHKIN—Will Mr. Ketchum say which is the better process, crushing or grinding the apples?

Mr. KETCHUM—I should certainly prefer crushing if I had any means to effect it. I remember one season I had some nice white apples picked in the fall, to make up the last cheese, and I had an order for cider for family use from a gentleman in the city. The product of those clean, white apples was so colorless I disliked offering it to him. It looked like water, but it was the last of the season and I could not do better, so I explained the matter to him and he took the cider. The next fall I was invited to his house to dine, and a bottle of that cider, previously opened, was brought out and proved very fine. He insisted, however, that another bottle not before opened be brought, which was done, and I never tasted any better. It proves only that color is not needed to make cider good.

Another matter which I should not neglect to mention in speaking of the common packages, is the common fault of musty barrels, or must anywhere in the process, even musty straw brought in the wagons with the apples. A very little must will spoil the cider made from a hundred bushels of apples—there is no help for it. It may make up right in all other respects and may look well but the must will spoil the taste entirely.

President HOFFMAN—Is there no process to cleanse musty barrels?

Mr. KETCHUM—I have tried various ways but so far without satisfactory results. Potash having been recommended I have been giving that a trial, but I cannot say how it has succeeded. I think it may be set down as a hard matter to cleanse musty barrels and I should prefer not to use them.

Mr. HOTCHKIN—The French use carboys which are more easily kept clean and are as cheap as barrels.

Mr. KETCHUM—I have read lately that small packages will not keep as well as larger ones, and it is true so far as wooden packages are concerned, the reason being that there is more contact with the air. Wood admits air through its pores, as may be proved by drawing from a cask without vent until it ceases to run, and the next day a trial will succeed again, showing that air has entered through the wood. Now the exclusion of air is an essential condition to the preservation of cider and glass may therefore be considered better than wood for saving it.

The main thing for us to look after, however, is greater cleanliness to which our farmers must be educated before we can have first-class cider.

President HOFFMAN—The lessons to be derived from this discussion are, first that which has just been stated—cleanliness. And then the experience of these cider makers points also to the excellence of Harrison apples for cider. I have made some effort to produce this variety for the purpose of using for cider. The cultivation of Harrison apples will, to some extent, prevent the depredations of fruit thieves, for they are not enticing to the taste, and they are small, but for the purpose named, they are easy to gather, good yielders and vigorous growers. I recommend orchardists to lop the branches of those trees which bring no profit, whether because of valueless fruit or barrenness and graft in Harrisons which are sure to bring profit. The cider made from them is worth much more per barrel than the product of the common varieties.

The discussion here ran upon wine making and was very interesting, but being chiefly the observations rather than the practical experience of the members, it is withheld.

One matter, however, was noticed and had entire concurrence of all who were present, which is worthy of mention. It was hearty earnest condemnation of all the compounds made from currants, elder berries

and other berries and miscalled wine. There is in them nothing of the vinous principle, although enough of alcohol, which is not wine. The addition of sugar converts into alcohol, thus bringing intoxicating poison to the mixtures which is really the only incentive to their manufacture.

The subject for the next meeting is "Fall Plowing."

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SATURDAY EVE., Oct. 24, 1874.

In the history of the Club, the few weeks immediately preceding the general election have always shown a thin attendance, which is due to the fact that other attractions entice even steady farmers, who always work up some partisan feelings or who delight to put themselves in the way of political influences. The power which they exert through their votes makes them worth propitiating, and accordingly fine entertainments are provided in the way of speeches by famous orators, at the expense of the patriots who hold office or desire. This evening, with a flood of moonlight and a delicious October air, farmers prated of their corn fields and their husking while they marched to the Opera House, where free seats invited them to listen to the finished oratory of a famous man. Only votes were required to reward all the eloquence. It is well. There is a time for every purpose under the sun.

The first enquiry at the Club was by Mr. Fred. Mills, who wanted to know the cheapest and best way of conducting water from spring to his buildings, a distance of forty rods, with a fall of not more than ten feet. Permanence of the water course he regarded as an important matter, and he suggested also that the exposed situation would require especial safeguards against freezing. The soil through which the course must be cut is principally clay. Wooden pipe would no doubt work well for a time, but decay sooner or later makes removal necessary.

W. A. ARMSTRONG.—Good cement pipe, well laid below frost is the cheapest way in which the water may be safely carried. But, to make it sure, it must be put down so deep that the expense of making the ditch will be a material item of cost. Three feet in that clay soil will be very safe. Possibly two and

a half feet would answer against frost, but the possible injury to the pipe by wagon wheels passing over when the ground is wet and soft, or the pressure of horses feet when plowing over the pipe makes the greater depth safer. And besides if the water is to be used for drinking, it is kept at a lower temperature.

In making cement pipe no greater degree of skill is required than for the efficient use of our common farm machinery, although a little experimenting for the purpose of acquiring an acquaintance with the requirements would be necessary before venturing upon the real work. After obtaining the proper material the tools needed are very simple, being simply a long narrow box to serve as a mold for the prepared cement, and a round stick the size of the desired orifice. The stick should have a very slight taper. The work is done by laying the cement in the box placed in the bottom of the ditch where the pipe is to be, the stick occupying the place of the proposed conduit, and of course surrounded by cement. As soon as all is properly packed and the cement has set sufficiently to prevent closing, the stick is drawn forward, not quite away from the section laid, and then the box moved forward, when the operation is repeated, making a second section of pipe united to the first with the orifice continued by the stick which had not quite left the first. This operation is repeated until the whole length is completed. It is easy to see that no great degree of skill is necessary to perform the work. The main thing is to get material of the right kind and to mix the cement and gravel in the right proportions and the proper consistency. All this is learned by the preliminary trials. Such pipe well laid is practicably indestructible when placed below the reach of frost and injuries which come from passing vehicles or from the tread of animals.

President HOFFMAN—I know good success has been attained in the use of such pipe, but I think it is very important that the best material be used. I made a trial once with what was called the best Syracuse water lime, and the work failed because the mix-

ture did not set properly. When the stick was drawn forward the cement would settle and close up the orifice. After repeated attempts to make pipe of that material I was obliged to abandon it. I would recommend Mr. Mills to procure the best Rosendale.

JAMES McCANN—My mind has been occupied by this subject for some time. I have a spring sixty rods from my barns, from which the water is brought in wooden pipes laid about seventeen years ago. Part of the way is through gravel soil, and part through clay. In the latter the pipe has remained good, unless it be now decayed, but in the gravel in has been once replaced and now the course has broken by some means so that while the water enters the pipe at the source it does not pass through to the barns. I have been planning to lay the whole over with wooden pipe, but I should be glad to find something better without greatly increased expense. Perhaps this cement will do, but I have been discouraged by a man who told me a few days ago that he had tried it and found the difficulty named by the President. The settling of the cement filled in the pipe so that his work was lost.

Mr. BILLINGS—I saw some men engaged in laying Rosendale cement for the Water Works Company a few days ago, and it set as fast as they could use it. I think that with good material there need be no apprehension of trouble on this score, and with poor material failure ought to come.

President HOFFMAN—No doubt much of the trouble comes from the use of common bank sand. The better way is to go to some gravel bar along the river and get clean, washed sand and gravel, which, with good Rosendale cement, would insure setting and no doubt, very hard, firm pipe.

W. A. ARMSTRONG—Certainly, common sand, having considerable loam intermixed, is wholly unsuited to this work. Clean gravel is the proper material with which to mix the cement—not coarse, but rather fine stones with sharp angles. With this, set-



ting is quick, and when thoroughly hardened the work is like rock. On the farm which I now occupy there is a pipe made of such material, put down more than twenty years ago, and still efficient, except that it has been injured by pressure from above, which would not have happened if it had been put down to a sufficient depth. The lower portion taken up because of such injury broke up like stone and when exposed for a whole year to the action of the elements still had the firmness of rock.

Mr. MILLS—I have been told that such pipe would not bear the pressure necessary to raise a head of water.

W. A. ARMSTRONG—Of course no great head should be put upon it until it is firmly set, nor even then, but there is no difficulty whatever with a head of ten or fifteen feet if the work be properly done and if a greater head is needed, the pipe should be reinforced with a surrounding layer of cement. As to the cost it need not be half that of wood, with the further advantage that it will never rot, whether laid in clay or gravel soil. If Mr. Mills desires to attempt its use, he can find in the *American Agriculturist*, for November 1874, cuts of all the tools used in the work, and very full directions about the manner. A few cents expended for that number will return him many dollars of saving in the laying of his forty rods of pipe, and he need take no trouble to find a skillful workman for he can do it all himself.

Mr. McCANN—My arrangements being made I think I shall lay wooden pipe again. Now I would like to ask if durability would be promoted by coating the wood with gas tar.

President HOFFMAN—I think not. I have tried in it in setting fence posts and I have set posts without it. So far as I can see there is no difference in the lasting. They all rot whether sap or heart posts, and whether coated with tar or not, in my experience without appreciable difference of time.

In Mr. McCann's case I would suggest iron pipe, inasmuch as he desires a lasting conduit and has proved the unreliability of wood.

Mr. MILLS—I ascertained the cost of iron to-day. For three-eighths pipe eight cents per foot, or if lined with enamel nine cents per foot.

President HOFFMAN—No such pipe should be used. The bore is too small. One inch pipe is as small as should be used to conduct water. It is a very common mistake and the cause of many failures, that pipes of insufficient calibre is used. Such work is expensive at the best, but it should not be spoiled by stinting the expense to the use of improper means. Perhaps iron would not be the best material, but I am very sure that the small iron pipe named would not be reliable.

On the subject of fall plowing, selected for this meeting, President Hoffman called Mr. Ezra Rockwell, who said:

"The practice of plowing land in the fall for crops the next season does not meet my approval, except under special conditions. Sod land of rather heavy character may sometimes be profitably plowed in the fall, but as a rule I do not think it is the best time for even such land. I have tried it and have tried fall plowing of stubble lands, generally without good result.

In my experience grass seed has not taken so well as on similar lands plowed in the spring. This experience has been on hill lands. Perhaps fall plowing on the gravelly flats might do better. I have lately learned of a farmer near Horseheads, who plowed a field last fall and a portion of it he crossed in the spring and sowed all with oats. On the part crossed his crop was almost worthless, while on the portion not crossed he had a moderate crop and the grass seed showed a like difference in favor of the piece not crossed. He thought the failure both of the oats and the grass on the cross-plowed land was due to the dryness of the soil, and that it was made to dry out more quickly by the crossing. I conclude that fall plowed land

should not be crossed in the spring, but it should be well harrowed before sowing the seed. Two years ago I plowed part of a field in the fall and the remainder in the spring, when all was sowed to spring wheat. The spring plowed portion yielded the better crop without any reason that I could discern, except the time of plowing. The seeding of grass was also better on the spring plowed portion.

Land having roots and bushes, of which to dispose, I should always plow in the fall, because there is more time to spend in jirking them out, and because the freezing which they get is excellent to kill them. Any time is good for such land but late fall is the best of all. So also might foul land be profitably fall-plowed, by which the weeds and foul seeds would stand some chance of being frozen to death."

President HOFFMAN—Have you ever observed the effect of fall plowing on the second crop? Any loss of fertility?

Mr. ROCKWELL—I have not, although I have in mind a piece which was plowed in the fall to get rid of a troublesome growth of mustard, and the next season it raised a fine crop of buckwheat, after which it was again fall plowed, and the following spring sowed to oats, which proved a failure. There might be other causes, however, than the fall plowing.

Mr. FRED MILLS—My experience has been very different, and I must say in favor of fall plowing for hill lands. Last fall I had a fourteen acre field which I began on and did not finish until spring. Nearly all the field, including the fall plowed portion, was sowed to oats, and the crop was certainly better on the fall plowed. As the land lay it was convenient to plow around it, which I did, so giving a fair test as to quality of soil. I do not think there was any material difference in the number of bushels to the acre raised on the two portions, but it was plain that the oats raised on the fall plowed ground were heavier and brighter, and there is also now a plain difference in the seeding of grass in favor of the fall plowed. On this the clover

shows well and the timothy is promising, while on the former there is no clover to be seen and but little timothy.

One great reason why fall plowing proves so unsatisfactory to some farmers is, that it is done too early. I think that explains one failure of which Mr. Rockwell spoke, for I remember he plowed in September with some thought as he told me, of sowing rye. No land plowed at that season gets afterward all the fall rains and is beaten down hard. I would prefer to have the work done as late as possible, so that the furrows may lie loosely when winter sets in and they will come out loose in the spring.

Mr. JAMES McCANN.—Which part ripened the oats earlier, on the field partly fall plowed or partly spring plowed?

Mr. MILLS.—I do not think there was any difference in the ripening between parts of each sowed on the same day. The oats were ripe so that we cut through both at the same time.

There is another reason why fall plowing is unsatisfactory to some farmers, and that is in the imperfect preparation they give the surface for the seed in the spring. It needs more work to fit for the seed, but there are many who drag over lightly and then sow. Of course the seed cannot take hold of the hard ground, and the crop proves a failure when the fault is in not doing the work required in the spring. My neighbor, Mr. Harrington, plows a great deal in the fall and I have watched his operations several years. In the spring he harrows the fall plowed land at almost the expense of time that would be required to plow, and he gets no failures.

President HOFFMAN.—Did you ever observe the second and third crops on fall plowed land to note loss of fertility?

Mr. MILLS.—I never noticed that land was made poorer by the process except by very early plowing. I think the soil is materially injured by September plowing for a crop to be put in the following spring. Now, in the last of October is a good time to begin and

November is the best of the months for fall plowing.

Mr. J. F. BEECHER—My experience proves the correctness of Mr. Mills theories. In eighteen years of tilling of hill lands I have fall plowed a great deal, always having tried to get as much of the work done in the fall as possible and invariably my crops, whether oats, spring wheat or grass, have proved better on the fall plowed than on the spring plowed. It has often happened that the test has been made in the same field by portions left in the fall unfinished, which were plowed in the spring, giving always inferior yields. One season a twenty-five acre field which I tried to plow in the fall proved to be a job for the time allotted, so I had a portion left over. The fall plowed I got into wheat and oats in March, and then plowed and put in the remainder. The yield of each kind of grain was nearly twice as great on the fall plowed as on the spring plowed.

For grass seeding also I have great preference for fall plowed land, because it takes better, and I think it holds better. In my experience I have often found several days difference in the ripening of oats sowed on the same day on land plowed part in fall and part in spring, always in favor of the fall plowed. And I never saw any injurious effects to the land—no loss of fertility or hurtful change of condition. My soil is clay and loam with but little that is gravelly.

As to crossing in the spring, I have made some experiments without beneficial results and I would set it down as a rule that fall plowed land should not be again plowed in the spring.

Mr. McCANN.—My observation and experience are in accord with these gentlemen who favor fall plowing of such lands as they have. I think nearly all the hill lands may be safely and profitably plowed in the fall, but such soils as mine, gravelly plains, are not at all benefitted, they are perhaps even injured by fall plowing. Loose enough at the best they do not need to be stirred in the fall. Such lands admit early work in the spring, so there is no argument for fall plowing.

Mr. ROCKWELL—I plowed last fall a portion of a five acre field and finished in the spring. The crop on the spring plowed was very much the better. I felt sure that I harrowed the fall plowed very well.

Mr. MILLS—I think I can account for the difference. The fall plowed portion has never before been plowed and it did not turn up suitable soil for the growth of the crop. It was new and raw and would not have brought a good crop if plowed in the spring.

Mr. ROCKWELL—There is truth in that, but not all the fall plowed was of that character.

President HOFFMAN—I add my testimony to that offered by Messrs. Mills, Beecher and others who favor fall plowing for land composed largely of clay or, in other words, for heavy soils, and such is the character of nearly all our hill lands. I have had some doubt about the influence of such plowing on the crops in after years, for there are farmers who contend that it is, in the end, ruinous to land. No evidence to prove it has come to my notice, but I have fancied there might be some truth in it, and have therefore tried to bring out such evidence, if there were any here.

Fall plowing on my heavy land has certainly brought better results than spring plowing, and the comparative test has been made in the same field under like conditions in other respects.

On one occasion I plowed a strip in the fall in the ordinary manner, one rod wide, around a five acre field. Then with a double Michigan plow plowed three acres twelve inches deep, leaving two acres in the middle for spring plowing. One acre of this was plowed twelve inches deep, and one acre to the ordinary depth, when all was sown to barley. I could see no difference in the crop in favor of the deep plowing, but all the fall plowed gave more satisfactory results than the spring plowed. On the former the barley stood up well on strong straw, making the gathering nearly as easy as oats, while on the latter it crinkled badly, and of course did not give as fine grain.

Mr. ROCKWELL—On our hill lands I have noticed that the raw soil turned up in the fall runs together during the spring thawing until at last it is as tight and compact as if it had never been plowed.

President HOFFMAN—On such land make furrows about two and a half feet deep at such intervals as may be needed, and lay in them drain tile, by which the surplus water which causes that running together will be drawn off.

Mr. BEECHER—That is his want. I have laid pipe in such soils and found the condition so improved that I could go on early in the spring to work where before I had to wait beyond the season, and so, of course, failed of good crops.

The next meeting will discuss the breeds of pigs, with especial reference to the wants of small farmers and those engaged in mixed husbandry.

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SATURDAY EVENING, Oct. 31, 1874.

Several members who have not heretofore attended the fall meetings came in, although the evening was unpropitious. Interest is manifestly increasing. When the political excitement incident to the annual election shall have passed, the hall will be well filled at every meeting, no doubt, as in previous years. One of the first rules established by the Club was that "No political discussion shall ever be permitted at the meetings." No single infraction of this rule has ever been made, nor would one be possible under the stern presidency of the present executive officer. Even the merits of candidates for office are never presented in any casual way during the session. The rule is wholesome, no doubt, but there are times when many of the enthusiastic partisan workers stay away rather than place themselves under the inhibition. They must have fields where the ebullition of party spirit can work without restraint, and where they can cultivate oratory without the difficulties which usually beset plain truth telling.

As the season for social festivities approaches the Club begins to consider its an-

nual public reunion, and to receive invitations to the similar pleasant parties arranged by kindred societies. The first matter presented at this meeting was the following formal invitation from Genesee county :

"The members of the Elmira Farmers' Club are respectfully invited to meet with the Genesee County Farmers' Association on Saturday, November fourteenth, at one o'clock P. M., at the Court House in Batavia.

[Signed]

J. G. FARGO, Secy.

Unfortunately the day selected is the regular Club day, these meetings being held every Saturday, but so strong was the disposition to attend that a division of forces will probably be effected, giving a delegation to Batavia without suspending the regular order of meeting.

The question assigned to this meeting being "Pigs, with especial reference to the wants of small farmers and those engaged in mixed husbandry." The following letter from Joseph Juliand of Terrace Hill stock farm, Bainbridge, Chenango county, N. Y., was quite opportune. It must be premised that the letter was written partly as an answer to questions considered by the Club at one of its recent meetings, when some of the speakers advocated the use of pure breeds and recommended especially the Essex or the Berkshire, both breeds noted for their early maturity and the excellent quality of their meat, but both being objectionable to common farmers who have an unaccountable prejudice against all the breeds which are black. Here is the letter :

"About thirty years ago, the hog of the country was a long nose, flat-sided, long-legged, long-bodied 'races.' I can call them nothing else. An animal that was turned by the dozen, as shoats, each fell into the woods, living upon nuts and tender roots, and in a good 'slack' year, would in fall and early winter become, if not fat, almost double in size, many of them wintering without a mouthful of extra feed, these, although good breeders, were most ravenous creatures of great power of lungs, but could be made of great size. One, years ago, was skinned, stuffed and remained thus in its true shape a long while in the agricultural rooms at Albany, on exhibition. Its live weight was over 1,200 pounds. About that time Mr.

Rotch, of Morris, Otsego county, N. Y., imported the Berkshire from England. A few years later, Mr. Washburn, of Butternuts, N. Y., also made an importation. My father and myself purchased from that importation two sows and one boar. There was a prejudice against black hogs. We sold a few. The half-bloods were scattered through the country, still there was no great demand for them. Asking a farmer why he did not patronize the new breed, he says: "Your pigs make good hams and shoulders, and it costs little to keep them, but we board all our own hired men and we want good, solid, 'broad-side pork,' that as they say 'will stick to their ribs and they can work on.'"

"The new breed ran out but left its impress, the noses were shortened, there was not quite so much music back of the house about feeding time. This was thirty years ago. From ten to fifteen years later, the report came up that certain Dutchmen in Chester county had most superior hogs. These were tried by many of our best farmers with good results. About this time Col. Morris, of Fordham, New York, imported some very choice Berkshires. Later, Mr. Crozier, of Northport, made extensive importations. From these gentlemen we renewed our stock. The demand for them is increasing every year. These later importations show the perfection to which an animal can be brought by careful and judicious breeding."

"A debatable point is whether the large hogs for which Jefferson county and other counties in the western part of the State are so famous, are the most desirable, or the finer Essex and Berkshire, whether one thousand pounds of pork can be made more *cheaply* and of *better* quality from two pigs, or from three. With us the dairy districts of Chenango, Otsego and Delaware, away from large centres of business, demand being the home market only, nicely cured hams and shoulders meet a ready sale. These, the smaller Berkshires, and their grades supply in perfection. There is a great change in our modes of living. The dish of baked pork and beans, or huge pieces of boiled pork, is now seen upon our tables. So certain am I, that the pure Berkshire boar, used upon our common sows, makes an un-

equaled cross; that in my report as executive officer in charge of sheep and swine at our State Fair, I have recommended a special prize for the best pen of pigs—grades, the cross of a pure boar on different breeds, not bred for breeding purposes, but for the butcher only."

"Within the past year I have filled several orders from parties in Chester County, Pa., sending to one gentleman there two sows in pig, to my imported boar "King William," the first prize boar in Albany in 1873. Mr. Frank L. Sellers, of Franklin County, Pa., writes me under date of October 12, 1874:

"The prejudice against black hogs is fast wearing away. The large Chesters are disappearing, the pure Berkshires with its rich marking, short dished face, deep carcass, thick hams and shoulders, are taking its place. The pair of Berkshires you sent me were awarded the first prizes, and the young boar was said to be the finest boar of any breed ever exhibited upon the grounds of the Cumberland Agricultural Association.

"JOSEPH JULIAND.

P. S.—Like all women I must add a postscript. In all breeding, whether cow, sheep, pig or chicken, let the male be a thoroughbred, and let him be bred from the best families of the breed noted for the peculiarities you wish developed in the off-spring, and feed all your animals without stint, keeping them as near the perfect shape they will always assume under the generous care of the dam.

J. J.

Following this came a letter from Kennett Square, Chester County, Pa.:

"I notice in the proceedings of the Farmer's Club that some of the members are in want of pigs. I am breeding and shipping Chester Whites, Berkshire, and Essex pigs, and I send out but those of my own stock. I would be glad to ship some to your section and I do not want any fancy prices as you will see by my price lists. I would like to ship a Chester white to you, and if you have any in your vicinity that are superior to him as regards ears, nose and general points I will not charge anything for him.

"My Berkshires are perfect and my Essex good. If you can send me an order for five or six pairs at a time, I will make a deduc-

tion from the regular rates. My stock is advertised in the *Husbandman* and I give reference if desired.

"Prices—Chester Whites, eight to ten weeks old, weight fifty to sixty pounds each, singly \$12.00, in pairs, \$20.00.—Twelve to sixteen weeks old, per pairs, \$25.00.

"Berkshire eight to ten weeks old, weight forty to fifty pounds each, \$18.00."

EDWARD WALTER,

Kennett Square, Chester Co., Pa.

President HOFFMAN—Without any doubt very great improvement can be made by our farmers in their pigs if they will send to some of these pains taking breeders and get pure bred stock of the most improved varieties. If a few should venture a small expense for this purpose, through their liberality they would have profit, and besides all the pigs in this vicinity would be soon improved in character.

In my own pens I have now several of unknown breeds that eat voraciously, but do not fatten. They grow in frame without putting on fat. They are unprofitable, because they have to be fed too long before they mature into good pork, and it may even be a question if they ever become as good and fine in the quality of the meat they will make as the pigs that mature earlier.—But at the best they have to be fed several months too long, by which they diminish the profits of pork making materially, if they do not render profit impossible. Viewing the matter in the light of profitable feeding, I might better kill them as they are, although they would need another full year to reach full development.

E. R. BECKWITH, of Bradford county, Pa.—The great need of common farmers is a breed that will become fit for the barrel at seven to nine months age. Quiet, docile animals that will make growth and fat rapidly enough to reach early maturity, thus relieving the farmer of the necessity of carrying them through the winter before they can become solid, well matured pork,

President HOFFMAN—There is much reason to expect all this in the finer breeds like

the Essex and the Berkshire. There is in the letter of Mr. Juliand something which permits the inference that between these breeds there is not much choice, for he couples them as the Essex and Berkshire, and I have been reminded by the Secretary that Joseph Harris, who has made the Essex famous by his judicious feeding and skillful selections, is much in the habit when writing of pigs to use the same coupled terms, Essex and Berkshire, or Essex or Berkshire. Of the two the Berkshires are somewhat larger, and possibly not quite so fine in the meat. It is possible, if not probable, that the Essex mature earlier. Both are black, the Essex entirely and the Berkshires except white markings on the legs and the face.

Mr. FITCH—I fully agree with the President that we need these pure breeds if for no other purpose, for the good they effect in the crosses with our coarser mongrels. I had a little observation of the good results to be obtained by the cross in the case of a pure Cheshire bought by Mr. McCann and crossed on a Chester white sow. One of the pigs of that cross which I fattened weighed more than six hundred pounds at a year old, and during all the period of growth was chiefly kept on the most common food.

Mr. HARRIS—The best I have ever had in dairy feeding were reputed Chester whites, but there is so much uncertainty as to the breeding that I can only say I bought them as that breed. I have fed half-breed Birkshires which gave very good returns, so good that I should be quite willing to try again or to buy the pure breed pigs, if I could find them at reasonable rates.

Mr. ARMSTRONG—There may be better breeds than the Berkshire, but with a limited experience, in which the breed has come in for a good share, I must say that they have fine points. The hams, which are the finest portion of the carcass, are very superior, certainly better than the hams of common pigs. It is claimed, with the appearance of truth, that no breed gives a finer quality of meat than the Essex and the Berkshire. Take this in connection with their early maturity

and quiet dispositions, and there is every requirement that an ordinary farmer needs in his pigs. The popular prejudice against the black color will now stand any test of examination on real merits. What we need is the breed which will give the greatest return in meat of fine quality, for the feed given, and it is quite likely we have this in the breeds named. The question of first cost in procuring the pure breed animals is that which deters ordinary farmers from entering upon the improvement, but this after all is a very small matter as the figures submitted to this meeting show, and in view of the advantages recognized and stated by all the speakers, is not worth considering.

President HOFFMAN—The Chester whites do not seem to be a fixed breed. Their characteristics are not clearly defined. A few years ago when the Pennsylvania State Fair was held at Williamsport, there were twelve or fourteen pens of pigs marked Chester white, and looking them over I observed pigs with long hair, pigs with shore hair, pigs with long ears, pigs with short ears, in fact all types of the species, all purporting to be Chester whites. There was only a single characteristic in which there was uniformity, all were white. Enquiring of the exhibitors I was informed that all were bred in Chester county, or from stock brought from there.

Mr. FITCH—I think the Chester whites are not a distinct breed, but represent only the improvement on the best of the old kinds in that region, without such breeding as to fix their best characteristics.

President HOFFMAN—Very likely. Giving a name to them does not make a breed. Many years ago I bought some Allegany cows which were called by farmers there "Noggerheads." They were streaked with white, good milkers, and had a certain uniformity of look, but were not a distinct breed. A few days ago I bought another lot up there, and in looking over the cattle I observed traces of these characteristics still prevalent.

W. A. ARMSTRONG—Do we want pigs of any breed? May not many of our farmers

find better profit in feeding their refuse to poultry?

President HOFFMAN—I have managed to get along a year or two without pigs, with great discomfort, and I am now prepared to say we need pigs while we keep our farms. I am ready to buy a pair of Essex or of Berkshire, even if I must pay a fancy price. The latter, I am inclined to think, come nearer the standard I have fixed, having rather more size and greater proportion of ham, I think.

Mr. FITCH—There are many of us who would be likely to buy these breeds if the breeders would advertise prices and save the trouble of correspondence.

Thirty years ago in Chenango county there were many of the breed then called Berkshire, and they were very easy keepers, always fat but not large.

Mr. BILLINGS—It was down that way, where the big hog exhibited in the State Agricultural rooms at Albany had his breeding. I recollect a story of two gentlemen riding leisurely by the place where he was kept, when a farmer, leaning on his gate, attracted their attention, and they stopped to make a few inquiries about the country and its products, to which the farmer gave ready answer, until seeing the gentlemen about to leave, he said:

"Have you never heard of our big hog?"

"No," said they, "how big is he?"

"Big! Why he is the biggest hog in America. He is right here in the pen. I show him to a great many people. It costs you only a quarter for both of you."

"Is that all?" said one of them, reaching out the quarter, which was greedily seized by the farmer.

"Go 'long," to his horse.

"What, aint ye goin' to see him?" said the farmer.

"No," languidly replied the gentleman, "I take it for granted you are the biggest hog in America. We don't want to see the other one! Go 'long."

This finished the discussion of the pig question for the evening.

A postal card from Addison, N. Y., brought the question "What variety was the corn

raised on Mr. Owen's farm this season, which was reported at the Club as having yielded two hundred and forty bushels from one acre?"

Mr. Owen being absent several gentlemen who had examined samples reported that it was of the common eight rowed yellow kind, with good length of ears, which, of course, might be expected in so large a yield.

A statement was made concerning a field of corn comprising twelve acres, raised by R. B. Van Gorder, of Ashland, in the past season. He turned over the sod in good season and as the land had lain long in pasture he was apprehensive that the corn might be damaged by cut worms, and therefore told his men to drop plenty of seed to make allowance for the worms, but it was not disturbed by them, and so of course the plants stood very thick. Not finding time to thin them out by hand, the process being tedious, all were suffered to grow. He cultivated about twice each way and then hoed the field over, after which nothing was done, although he recognized the necessity for further work, but failed to find opportunity to do it. He has just finished the husking and has twenty-four hundred bushels of ears from the twelve acre field.

At this point the discussion ran into general conversation regarding varieties of seed, the probabilities of mixing, and the policy of procuring seed from distant places. On the last point Mr. Heller, who is eminently successful in raising corn, expressed strong preference in continuing indefinitely the seed, selecting always the best. This idea was supported by President Hoffman and Mr. Joseph Hoffman, the latter citing instances of mixed seed, which, by selection, he had in a few years made nearly or quite pure. As a curious fact he mentioned that in his efforts to raise pure white ears from seed originally red and white he had found the red for years after he ceased using the seed, being careful to plant only the pure white which, however, would occasionally sport in colors.

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SATURDAY EVENING, NOV. 7, 1874.

The beautiful sunny days, which, without interruption by a single storm, have for sev-

eral weeks given farmers opportunity to bring up their fall work, have served also to bring that fatigue which follows severe labor, and by which attendance at these meetings has been diminished. But now the regular farm work being well over for the season, many of the old habitués of the Club gathered in, making an attendance very respectable in numbers, and giving increased interest to the discussion.

Several communications relating to the matters discussed at the previous meetings, were read, and formed topics for brief comment. Offers of Berkshire pigs from breeders in various sections of the State, naming terms favorable to purchasers, were duly considered, resulting in orders enough to put this county in condition to supply all home demand in the future.

No subject having been assigned to this meeting all were free to speak on any matters connected with farming. W. A. Armstrong said: "There is published in *Philip's Southern Farmer* a prize essay on forage plants, in which Alsike clover is highly commended, and the statement made that in clay soils of moderate fertility when once well set it affords abundance of good feed whether for pasture or meadow, and becomes permanently established for either use. However true this may be at the South, for our latitude it is sure to mislead. Alsike makes good pasture while it lasts, but it has no such endurance as our native grasses, and except as pasture in its brief season will bear no comparison with our common clover. There are many in this hall who have given it full tests and they will perform a duty to farmers at the North in stating their experience, by which they may counteract the evil effects which would follow full acceptance of the teachings in the prize essay in which Alsike is so highly praised."

Mr. BILLINGS—I have sowed the seed with great hope of producing good and permanent pasture, but disappointment followed. I had ten or twelve acres seeded with Alsike and found it made but small growth, and the plants did not stay. There was nothing like the amount of feed I expected from the descriptions given of growth elsewhere—much less than on average pas-



tures of native grasses, and what there was, soon disappeared.

**President HOFFMAN**—I sowed Alsike clover two years in succession, sparingly it is true, but enough to satisfy me that it would not serve my uses. The first year after the seeding it looked well, and made a fine growth in every case, the pasture being of fine quality, but that season was all in which there was anything to commend. I had some made into hay which looked green and fresh as if it would be dainty feed for cattle, but by my standard it proved very inferior.

**R. C. ARMSTRONG**—I have used it to a small extent and with the same results. It made excellent pasture while it lasted, but as hay it was worthless, my cattle would not eat it. After the second year it disappeared.

**President HOFFMAN**—That is all there is of it, good pasture while it lasts no aftergrowth and no permanency. But here is Mr. McCann who has also experimented with Alsike and now has an opportunity to commend it if he found it worthy.

**JAMES MCCANN**—It has all been said. I regard it as a complete failure.

**W. A. ARMSTRONG**—The question of grasses is one of the most important which we have to consider. It lies at the foundation of successful farming. How to promote the growth and how to establish permanent sod are subjects worthy of our study.

I have just had half a years' supply of barn yard manure drawn and spread on my meadow, although I am not convinced that it is the best use to which the manure could be put. For years I have been making trials of top dressing grass lands, and while there are fine successes which I might report there are too many failures to discourage such use of manure. None of us can afford to waste this source of fertility, and the experience I have had, together with my observations of the results on my neighbor's lands, lead me to the belief that there is sometimes great waste in top dressing meadows. There have been instances in my own practice where a liberal application of fine manure has pro-

duced no improvement that could be discerned, when the top dressed portion was compared with other parts of the field not so treated, with the observations carefully made even during the second and third years after the application. Must I not conclude that manure was wasted? If in such instances the land had been plowed and the manure spread upon the raw surface either in the spring or fall, and harrowed so as to incorporate it with the soil, the beneficial effect would surely be visible in whatever crop might be raised, and if then grass seed be sown success would be assured.

The desire to establish permanent grass is my only argument for continuing the fall spreading of barn yard manure on meadow land. It must be admitted that the average of meadow land in all this county, and perhaps throughout this State, does not reach more than half the production of which it is capable. I shall not be disputed when I say that our average product is not more than one ton the acre. Can we rest satisfied short of two tons? The desire to reach this standard induces these continued experiments with top dressing even after the most convincing proof that, as conducted, there is too often much real loss of manure. To have permanent meadow, or pasture, the surface must be fully occupied by grass. The sod must be so close that whenever the foot falls in passing over, it shall be on a soft cushion of grass. Get this condition and there is reliability in the sod. Is it meadow, or it is pasture, a safe dependence always. It is an argument against the plow forever. If it could be assured I should be quite willing to risk the waste of which I have spoken for years. There may be better ways to use the manure. I know that when put on a newly inverted sod in the fall to be used for corn in the following season, it returns full value in the crop, and it may do as well if put on in the spring, or possibly if spread on the sod, and then just the sod without greater depth be turned. It must certainly serve to enrich the soil even if its effects be not distinctly seen in the first crop. And when used in any of these ways, when the seeding of grass comes it is encouraged to good growth, but it does not make that compact old sod

which is the delight of the farmer who depends on grazing for their profits.

President HOFFMAN.—My experience on such lands as the Secretary has said, leads me to recommend that sod be plowed in the fall and the manure then spread, if there is to be corn planted in the spring. If there is a lack of time the manure may be drawn on any time in the winter. When spring comes harrow the ground thoroughly, by which the manure is intermixed with the soil. This will bring corn and weeds too if the seeds are in the manure, but cultivation will destroy them. The time to draw manure is when you have it. I am not one of those who believe in saving manure to draw when it is to be immediately used. I do not credit the theory that it will lose by washing on any soils of ordinary porosity. It is true that on soils already occupied by as much water as they can hold there can be no absorption of the juices of the manure. But such places should not be manured until the surplus water is first drawn off. I would not plow in manure even under a thin sod. The proper place to apply it is on the surface, when it is ready to draw upon as soon as the young roots feel the need. On gravelly soil I would not plow in the fall and would therefore wait until spring before applying manure for corn. For such uses it will do to save manure until spring, but on other situations I should not be hindered from drawing in the fall or winter, by any fear of washing, even if the snow were a foot deep when the manure is spread and the field be hillside; unless it be too steep to till. And even on grass land used as a top dressing there need be no fear of washing if the soil is reasonably dry. I should spread as fast as drawn, and in such condition the soakage will pass into the soil to benefit the crop.

W. A. ARMSTRONG—My work in this line is all done for the season. The manure lies spread on the meadow, but I have been querying if it would not be well to harrow it well now, even at the risk of tearing up raw soil. I think such a course would promote absorption of the liquid soaking from the fall rains and the melting snows of spring, and if there should be need, a sprinkle of grass seed would be likely to take root.

President HOFFMAN—Yes, harrow now with a Thomas smoothing harrow, which will tear the lumps to pieces without tearing the sod much. A common drag would only knock the lumps about and would do much more injury to the sod.

Mr. SEELY CHAPMAN—What time would the Secretary recommend as the best in which to apply the manure?

Mr. ARMSTRONG—Now, in advance of the fall rains, especially if it is to be put on grass lands.

Mr. CHAPMAN—That tallies with my experience, but I do not believe that such is the best use to which manure may be put on our hill lands. I would rather have one load applied as I want it than ten loads as it often is. There would be more good results visible from the one load, as I would use it, than from the ten loads as I have seen them used. The waste comes when the manure is drawn on moist hillsides while the ground is frozen—perhaps on snow which floats the manure off as it melts, leaving only the coarse refuse. I speak from observations made in a neighbor's field, where every day in winter the manure from his stables is drawn. I have seen it float off, and I have seen the water in the gutters by the roadside which take the soakage from the field, richly colored by the manure. Could that be without loss of its best properties? And besides I have noticed that there was very little improvement to the grass upon which the manure was spread, as compared with other portions of the field on which there was no application.

The method is to put manure on newly plowed ground, and if it be in the fall, for wheat, I think it is the very best way because it makes a good crop almost sure and aids very much the seeding of grass which is to follow. But even when it is left until spring lying in the yard and then put on after the ground is plowed for corn, or oats, or barley it is sure to tell.

Mr. DAVID STRATTON—Two years ago I drew manure on sod and saw no benefit from it. Last December I plowed part of a field in sod, for corn, and drew manure upon it. The remainder was plowed in the spring just

before planting, and no manure used. The difference between the portions was very much in favor of the manured part.

President HOFFMAN—Might it not be owing somewhat to fall plowing?

Mr. STRATTON—It might be, but I think mainly to the manure.

Mr. A. D. MILLS—I have drawn manure on grass lands more or less for many years, and I fail always to see as good results as when it is put on the raw earth. I am sure that on our tight clay sods there is a good deal wasted by washing, especially if there is much slope to the field. In one instance when I drew on sod and put the manure in heaps, the water which ran by from melting snows was deeply colored after it reached the road, thirty rods distant. It would be difficult to persuade me there was no loss. It is true the good effects of top dressing meadows are sometimes so plainly conspicuous that it seems almost certain it is the right way to do. I have had a crop of grass doubled by such top dressing, but there is too much uncertainty—too much depends on the season. If it be dry there is but little good to come from the manure, and if it be very wet too much of it is washed away. On the whole I conclude the safest way is to put it on newly plowed land where it can be slightly mixed with the soil. I have drawn on land fall plowed for oats, and spread it evenly, and in the same field left in heaps until spring and then spread just before sowing to oats. No difference was discernable in the crop on these differently treated portions, but all were better than a part of the field on which no manure was put. If I were to offer advice about the proper application of manures on our tight hill lands, I should say put it always on the raw soil. As a rule I think one load so used will show more good results than five loads put on sod or plowed in.

President HOFFMAN—Here is our friend Geo. McCann who sometimes argues in favor of plowing in.

W. A. ARMSTRONG—That is the way he gets two hundred and twelve bushels of ears of corn to the acre, but it is unfortunate that so good a crop of corn could not have a lit-

tle fertility from the fifty loads of manure used to make it, to help the growth of the next crop, as Mr. McCann insists it has not, I suppose because he charges the manure all to the corn crop.

Mr. McCANN—I happen to think just now of a little story. Riding by the Secretary's corn field my attention was called by a man who was with me to his estimate of average production made in the discussion last spring, when the Secretary would not believe thirty-five bushels to the acre was a full average. The man said: "Look over there," pointing to the Secretary's corn. "Do you think that will average thirty-five bushels? Stalks and ears together wouldn't make it; it might though if you take in the grass."

President HOFFMAN—The question of the application of manures depends very much on the object sought. On these hill lands many of the farmers make hay to sell, and reasoning from that stand point they are right about applying manure to the ground for the crops which precede the grass, because thereby they get a good growth of coarse timothy, which pleases the purchasers. Good, bright, coarse timothy is regarded by city buyers as the perfection of hay, and farmers who supply their wants do well to produce what sells best. When their lands fail to bring such a quality of grass, very properly they break up and underseed. But if these farmers want to feed their own cows for milk or even to feed steers, such hay is not the best. Quality, then, is better than bulk. All agree that the pasture on the old sod is more valuable whether to make milk or flesh than the pasture of newly seeded fields. If this be true, does it not follow that there is the same difference in the hay made of these grasses?

And if we are to get permanent old sod, how can it be gained without the application of manure to the sod? Even admit there is waste—the object when attained justifies all. I believe that for my use in producing milk or for Mr. McCann in feeding steers, one ton of fine grasses cut from a well set old sod is worth fully one and a half tons of coarser growth cut from newly seeded meadow. Certainly if we are to manure

land the ways here recommended are right—put it on the raw surface, but if we are to manure the meadows there is no way but to put it on the surface. On much of my land I can not establish permanent grass even by such manuring, because the soil is too open. But on the hill lands I do not doubt that a firm sod may be secured by top dressing, and I shall continue to recommend the practice to all who want to feed up their own products. On the hill land where Mr. McCann has so long fattened steers there is a sod which is worth more for the purpose than the best pasture he could produce on the gravelly flat. I venture to say he could not be persuaded to have it plowed. We do not plow land to enrich it. There are many who plow and sow grain and apply manure to bring about the condition suitable for re-seeding with grass. If the object sought is to enrich the soil, clover is cheaper and effective as manure, taking into account the diminished cost of the labor required and the other fact that not enough manure can be made to spread over all the fields.

So much has been said about the wash of manure on hillsides that I am persuaded to narrate my observations in my own fields. I have no land as steep as the fields of some of the speakers, but I have one place where I have spread manure on the grass with the surface inclined on about one foot in four, horizontal measure. The soil is loam and clay. Last spring I watched the effects of the rains, and while the grass was improved wherever the manure was put, I am confident that six feet down the slope from the termination of the manure, as spread, there was no visible effect.

Mr. MILLS.—I do not think the virtue of manure is often all washed away, but on very tight soils much of it passes off wasted. Of course there is less waste on porous soils—perhaps there is none. Land in good grass will keep so even without manure, if not grazed too close, but break that sod up and raise two or three crops of oats or other grain and it will be very difficult to get a sound sod again. There is a farm in the east part of this town where the meadows have been unbroken for forty years and the

grass continues good. Portions of that old sod have been plowed and cropped with grain, and all efforts to re-establish permanent sod, have been unavailing.

Mr. HOTCHKIN.—I want to ask President Hoffman if when he looks forward to the possibly not distant future, with his lands greatly increased in value by the encroachments of the city, it will not be more profitable to pursue a different system of feeding? Will he not find it more profitable to take his cows off from the grass where their feet tramp down and destroy twice as much as is needed for their sustenance? Will not soiling become with him a necessity? By this system permanent meadow can be saved in good condition and by the better saving and application of manure the yield of grass can be greatly increased.

President HOFFMAN.—Yes, sir. All this is worth thought. It has occupied my mind a great deal. At present I am land poor, having too much to treat by this method. A farmer does not want more than fifty or seventy-five acres if he is to pursue soiling. He can not handle more with profit. We are coming to this, many of our farmers are now practicing partial soiling, and I am satisfied that near our large cities farmers will be driven to adopt it fully.

Mr. OWEN.—This matter of grass and the use of manure to establish it, is a subject of much magnitude. I know of a field which it is alleged has been seventy years in grass, and I am sure the owner would not permit it to be plowed for anything less than the value of the land. We who have always been engaged in grazing, especially steers, know well the value of old pastures. And there is as much difference in favor of old sod for milk producing, as for making flesh on steers. The milk made from old pastures will bear longer transportation without souring.

After further remarks by Mr. Owen on the benefit to be derived from soiling, Mr. Doolittle narrated his experience in surface applications of manure in the past season, when the effects were notably good to the grain crop on which it was applied, and he gave also statements of surprising yields of grass obtained solely by care of his

meadow, the principal requisite being a good coat for winter protection, to insure which he rigidly excluded all animals after haying.

Next meeting will discuss "Soiling," Mr. wen being

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SATURDAY EVENING, NOV. 14, 1874.

When the last meeting selected the subject of Soiling for consideration at this meeting, it was alleged by some of the members that there was not enough of practical knowledge to make the discussion valuable. This was admitted, but it was also said, "this matter of soiling is pressing upon our notice, it will soon become a necessity, and here is the place and now the time to consider it." These arguments prevailed, and there proved to be such attraction in the subject that a fine gathering of farmers came in, most of them to listen rather than to speak, but still giving proof that real interest attaches to the subject.

President HOFFMAN, after dispatching the usual routine business, called for the reading of letters received during the week, when several relating to Berkshire pigs were offered and passed without comment, the ideas having been presented in a recent meeting. It is worthy of note, however, that the writers, although mainly all breeders of other stock, agreed in commending the Berkshires.

A rambling letter from James Miller, of Penn Yan, giving his opinions on the application of manures and on other subjects, is given in full so far as the writer confined himself to the manure question:

I have been very much interested in reading the report of last week's discussion upon the application of manures. I am a firm believer in top dressing. My observation and practice have convinced me that to secure the greatest benefit from the use of manure it must be applied upon the surface, and that the soil to which it is given must be in a porous condition. If the field be designed for wheat the manure should be well rotted. There have been times when I have spread manure upon portions of fields just before drilling in the seed, and the benefits

have been clearly discovered as soon as the plants appeared, all the advantages being conspicuous until the harvest, when the manured portions have given twice the yield of the unmanured, and in the seeding of grass to follow the wheat, like improvement has shown for at least two succeeding seasons. The most notable instance of this occurred in my fields about a dozen years ago, since which time I have made frequent experiments in the same way, which have uniformly resulted in great improvement, both to the wheat and the grass. I do not exaggerate when I say that sometimes the crop of wheat so stimulated has been three times as great as on the portions not manured, and that the grass for two seasons thereafter has exhibited a like ratio of improvement. In some of these cases the product of wheat has been fully fifty bushels to the acre.

"I think I have learned that grass lands do not receive the real benefit of manure unless it be applied within the first two years after the seeding. After that there have been instances in my experience when the application has seemed to be entirely lost. I regard this subject of the application of manure as one of the most important for farmers to consider and should be glad if I could meet with you some time when it is up for discussion."

After the reading of the letter, President Hoffman said: "The theme is worthy of a great deal of thought, but this meeting having the subject of soiling to consider, will not have time to take up other matter. We are too ignorant in all our business, and especially in soiling, which, with us, is almost untried. Since there are none of us who can speak from an extended experience, latitude will be given in the hope that valuable suggestions will be made, leading to more complete knowledge of this important matter. Of course so far as practical speakers will confirm themselves to observed facts. Mr. Owen having been designated to present the subject will, I trust, be able to give us all instruction."

Mr. OWEN—At the last meeting some one remarked that we knew so little of soiling that we could not give it profitable discus-

sion. It is none the less true that through the consideration given to the matter the road to knowledge may be obtained. We must begin somewhere and in this case it seems at the beginning. For myself I have to say the President has seemed desirous to start at the beginning, in naming one who has so little practical knowledge, to lead off the discussion. My experience has been only the common one with sowed corn for feeding cows in the season of short pasture. This I have had for many years, and its use has seemed to be attended by good results. I do not care to speak now of the different ways of raising it, because I have a more interesting matter, to present. It is a letter from Samuel Gillett, of Genesee county, as follows:

"In regard to soiling stock I cannot narrate as favorable results as some others report who claim to make the produce of one acre keep a cow one year. With me it takes about two acres. I have, after deducting woodland, roads and yards, fifty acres, and keep an average of about twenty cows and four horses, or about equal to twenty-five cows, fed for making milk. The crops grown this year have been about as follows: Thirteen acres in meadow, eleven in wheat, seven in oats, four in potatoes, four in corn, three in sowed or fodder corn, one in oats and peas sowed together, one in sugar beets, and six in pasture. The pasture is not turned in until it gets a good start in the spring, say about the 28th of May. It keeps the cows until the clover is large enough to cut, which is fed until the crop is cut for hay, when the oats and peas are used, until ripe enough to cut for crop, when the land mowed for hay will keep for two or three weeks after which we depend on sowed corn and beet tops to finish out with until winter. I milk in the stable and feed grain of some kind every day in the year. I buy brewer's grains and bran and damaged or stained beans for feed, in addition to what I raise. I do not know the amount of money paid for feed, but am satisfied that after supplying my family with bread and mostly with meat from the farm, I sell from it, besides milk, more than I buy.

"I am very sure my land is growing richer

and more productive every year with its present management, and hope in a few years to make a better showing."

This is the statement of a farmer who is able to keep one cow on the products of two acres of land, which is much better than any one can do by the ordinary system of pasturing. Years ago, in Orange county, I began raising sowed corn for soiling, by a method which practice has proved is not the best. I sowed, on one occasion, six acres broadcast, and to get it thick enough I sowed twice, the second sowing crosswise. It would have been better in drills, for that permits cultivation by the plow, and of course the destruction of weeds, thus improving both the growth and the quality of the crop. The feed is also more easily gathered for use.

But few of our farmers have read "Quincy on Soiling," and I may therefore be permitted to present ideas gathered from this work. In talking of the advantages to be derived from this system of feeding, he enumerates six heads in the order: First, saving of land; or the investment of money having in view the keeping of a given number of animals. Thus as we have seen in the letter of Mr. Gillett twenty-five cows are kept on fifty acres by soiling, while we all know that twice as many acres are generally required in the ordinary way of feeding. There are men who claim that every acre properly brought into service will serve to keep a cow. But with the facts we have, all will admit, that the system does tend to a large reduction in the amount of land required, and this is a strong argument in its favor.

The second advantage named by Quincy is in the saving of fences. Let any of us estimate the amount required on a farm of one hundred and sixty acres divided into ten acre fields (and this is about the usual size on such farms) making sixteen fields. Without taking any account of extra fences for small lots set off for special purposes, nor for road fences, nor for any irregularities by which the length of fencing is increased, there will be required nine hundred and sixty rods. I think it will be admitted that the annual cost of maintaining this, including

first cost, necessary repairs, and rebuilding when occasion requires, which extended over a term of years, will reach at least one hundred and fifty dollars. Now this sum would serve to pay one man through the period for soiling, thus disposing of the usual objection that the cost of labor renders the system impracticable. I believe the figures given as the cost of maintaining the fences are low, and yet at the low estimate of annual cost, so far as expense is concerned, the farmer will find that the extra labor involved in soiling is fully compensated by exemption from the other tax of fences. But this is not all. The removal of fences makes better and cleaner culture possible and is in itself an actual saving in land, giving material additions to the area available for use, as well as better access to the different portions of the farm with these artificial obstructions removed.

The third benefit is found in the greater economy of food. It is quite plain to us all that there is great waste in the common mode of feeding. I need only mention the losses resulting from causes apparent to every observer: The tread of the animals' feet in their necessary and unnecessary travel over the pastures—the solid and the liquid excrements dropped at random, and rendering the grass unpalatable—making it unmitigated waste—and the spoiling of other fresh pastures by the lying down of the cattle when they are filled, making those spots unpalatable. These and other ways of loss make it necessary to provide vast areas of land for pasture beyond what is needed to afford sustenance to the cattle. I shall not stop to make deductions. I give you only my opinion when I say that the losses from these causes on an average stock farm are quite sufficient, if saved, to pay the extra labor required by soiling.

The fourth advantage is in the greater comfort and thrift of the cattle. It is easy to see that many of the annoyances which cattle suffer when at pasture would be avoided by feeding in stables. Certainly the torments of flies would be much less and the comfort of shade would be always afforded. It has been urged by the opponents of the system that health is promoted by the exercise which cattle take in their search for

pasture. I cannot say the argument is without weight, but I answer that soiling does not contemplate constant confinement. Arrangements are made for proper exercise, and I believe very little of this will meet all the requirements of perfect and continued good health. Cattle at pasture roam unnecessarily and often uneasily, without a purpose, and with no beneficial results. With every want of food and drink provided in the stable, there cannot be need of extended exercise.

The fifth advantage in considering the soiling of cows, to which Quincy gave most of his care, is the increased product of milk. I am not prepared to say how much this may weigh in favor of soiling, but I have no doubt that an important increase might be thus secured. Full feed, quiet and comfort promote the secretion of milk. It is reasonable to suppose that the good care and watchfulness which should always be given to animals in the immediate charge of a sensible keeper, would tend to the attainment of this result.

But the sixth advantage is so obvious that it scarcely needs comment. It is the vast increase in the available supply of manure. By the common mode of pasturing it is almost safe to say that the manure made during the summer is lost. Dropped anywhere, exposed to the burning heat of the sun or the washings of rain, or on places where the waste is total even if the virtues were not burned nor washed out, it certainly does not conduce much to the enriching of the fields. We count for use only the accumulation of winter, for it is all that can be made available. But it is of no more value than that which is made in summer, if that could be only served for use, as by this system of soiling it must be.

I have thus presented some of the plainer advantages which soiling promises. They are certainly worth our consideration. I do not claim in what I have said originality. In common with many of you I am in pursuit of farther knowledge regarding this matter, for I see that there is a growing need on these high-priced lands of some more successful way of feeding than that which has descended to us from those who occupied the land when it was new. At the last meeting

you, Mr. President, stated as an objection to entering upon this economy, that you were "land poor." That means too much land to be subject to this treatment. There are many of us in like condition. Would it not be true economy to reduce by sales the number of acres, if we can be assured of undiminished products on what is retained? All the arguments are in favor of such a step. On a large farm the undertaking would be very great involving great outlays for labor, but I firmly believe that the profit attending it would be ample reward for all the increase of cost.

Mr. HOTCHKIN — If, Mr. President, I might claim indulgence, I could speak of what I have seen of the practical working of this system of feeding. I have no knowledge beyond that acquired by observation, and the study of the benefits as illustrated in a great extent of country where soiling is the established rule. I have seen hundreds of miles of farm lands where all the cattle were fed continually in stables. Of course I refer to another country, to observations made in Europe. It must be evident to any one who gives the matter but cursory examination, that our farming is in a transition state. This valley is passing from new to old, and rapidly too. What might have been commended as the wisest practice a generation ago, or even but a dozen years since, may not now be applicable to the changed situation. The practices and modes which prevail in countries widely separated must necessarily differ because there are different objects and requirements as well as different capabilities. But from such countries useful hints may be drawn. In Southern Europe, and especially in the South of France, the products differ widely from ours, and therefore the lessons of travel are scarcely applicable to our agriculture, but passing into the province of Burgundy or Normandy the climate and the products are not so essentially different from ours that the study of their practices may not be of service to us. If you were to go there you would note the entire absence of fences. You might pass over the usual routes of travel from the Mediterranean to the English channel, and in the entire trip you

would see less fence than on the drive from here to Horseheads, six miles.

Another matter which would attract observation is that all the land is in some way utilized. Along the highways trees are planted, but there are no fences to mark the boundaries. The whole country has the impress of this system of soiling which is in its agriculture obedience to the scriptural injunction, "Gather up the fragments, that there be nothing wasted." In passing from the road to a farmer's house, you notice as a conspicuous object, an enclosure for cattle, scarcely ever more than an acre in extent—often much less. In the middle of that is the soiling house, with low gables and high pitched roof. At the ends suitable entrances are provided, and near by is the well. Within and about the building all the necessary provisions are made for feeding the cattle and for saving the manure, even the urine having a tank provided for its reception, whence it is pumped on the solid manure to aid in its preparation for use, or is drawn in casks, something like our street sprinklers, and applied directly to the meadows. Within these soiling houses, or within the enclosures which surround them, cattle are kept all the time, nearly all the year. If they are ever suffered to graze they are tethered by a rope, one end of which is secured to a stake driven for the purpose, so that they cannot move beyond the narrow circle measured by the rope. There is much uniformity in the appearance of the soiling houses, and in all the arrangements for feeding and otherwise attending to the wants of the cattle. In a country divested of fences, as might be expected, there is very clean culture and every evidence of very careful farming. Weeds are eradicated to make room for useful plants.

What we speak of here as so very desirable—permanent meadow land—is attained there through soiling. Meadows abound, unbroken for a life time. Of course excellence and permanence are secured by the application of the vast supplies of manure, all saved in the soiling houses ready to use when occasion demands. The man in charge goes out to the grass and cuts what he wants, which is drawn by a donkey to the cattle. It is true there are specialties in



farming there, as here, but the description I have given is applicable to large districts of the country. Near large cities especial attention is given to the production of milk and butter, while farther back in the country the varied interests of agriculture all receive attention, but everywhere the one mode of feeding cattle prevails, whether the chief object be gain or dairy products or crops of any kind. There are fields of flax, the extent of which would surprise an observer from this country if he did not reflect that those fields produce flax from which is made the linen for the world. Vast amounts of lime are used for mechanical purposes and to fertilize the land.

On the subject of soiling, if I should not weary your patience, I would present the views of a man who has adopted the practice—a gentleman who has attained literary fame and who is also successful as a farmer. His farm embraces two hundred acres, two miles from New Haven, Connecticut. It has a face much like President Hoffman's farm, but it is not so good in soil. Six years of occupancy under the system of soiling produced great improvements. I read:

"From the eighty-acre flat below—so like a carpet, with its checkered growth—I order every line of division fence to be removed; the best of the material being kept in reserve for making good the border fences, and the remainder cut, split and piled for the fire. The neighbors who cling to the old system of two acre lots and pinched door yards, open their eyes and mouths very widely at this. The novelty, like all novelties in a quiet country region, is at once astounding and oppressive—as if the parish parson were suddenly to come out in the red stockings of a cardinal, or a sober-sided select-man to appear on the highway without some important article of his dress.

I fancy two or three astute old gentlemen leaning over the border fence as the work of demolition goes on.

"The Squire's makin' this ere farm inter a parade ground, a'n't he?" says one; and there is a little, withering, sarcastic laugh of approval.

Presently another is charged with a reflection which he submits in this shape: "Ef a

critter breaks loose in such a *rounge* as that I raether guess he'll have a time on't." And there is another chirrupy laugh, and significant noddings are passed back and forth between the astute old gentlemen—as if they were mandarin images, and nodded by reason of the gravity of some concealed dead weight—(as indeed they do.)

A third suggests that "there waont be no great expense for diggin' o' post holes," which remark is so obviously sound, that it is passed by in silence.

The clearance, however, goes forward swimmingly. The new breadth which seems given to the land as the dwarfish fields disappear one after another, develops a beauty of its own. The yellow-weeds and withered wild grass which had clung under the shelter of the fences, even with the best care are all shorn away. The tortuous and irregular lines which the frosts had given to the reeling platoons of rails, perplex the eye no more.

Near to the centre of these opened fields is a great feeding shed, one hundred feet by forty, its ridge high, and the roof sloping away in swift pitch on either side to lines of posts, rising eight feet only from the ground. The gables are covered in with rough material, in such shape as to leave three simple open arches at either end; the middle opening—high and broad, so that loaded teams may pass beneath; the two flanking arches—lower, and opening upon two ranges of stalls which sweep down on either side of the building. These stalls are so disposed that the cattle are fed directly from carts passing around the exterior. Behind either range of cattle is a walk five feet broad; and between these walks, an open space sixteen feet wide, traversing the whole length of the building, and serving at once as a manure pit, and gangway for the teams which deposit from time to time their contributions of muck and turf. Midway of this central area is a covered cistern, from which, as occasion demands, the drainage of the stalls may be pumped up to drench the accumulating stock of fertilizing material.

This simple building, which serves as the summer quarters of the dairy, is picturesque in its outline; for I know no reason why

economy should abjure grace, or why farm construction should be uncouth or tawdry.

A small pasture-close, with strong fencing—with gates that will not swag, and with abundance of running water, supplied from the hills, serves as an exercising ground for the cows for two hours each day. Other times, throughout the growing season, they belong in the open and airy stalls. The crops which are to feed them, are pushing luxuriantly within a stone's throw of their quarters. An active man with a sharp scythe, a light horse-cart and Canadian pony, will look after the feeding of a herd of fifty, with time to spare for milking and stall cleaning.

From the tenth of May to the first of June, perhaps nothing will contribute so much to a full flow of milk, as the fresh-springing grass upon some outlying pasture on the hills. After this, the cows may take up their regular summer quarters in the building I have roughly indicated. From the first to the tenth of June, there may be heavy cuttings of winter rye; from the tenth of June to the twentieth, the lucerne (than which no better soiling crop can be found) is in full season; after the twentieth, clover and orchard grass are in their best condition, and retain their succulence up to the first week in July, when, in ordinary seasons, the main reliance—maize which was sown in mid-April, is fit for the scythe. Succeeding crops of this, keep the mangers of the cows full, up to an early week in October. Afterwards may come cuttings of late sown barley, or the leaves of the Mangel, or carrot tops, with which, as a *bonne bouche*, the cattle are withdrawn to their winter quarters, for their dietary of cut-feed, oil-cake, occasional bran and roots.

They leave behind them in their summer banqueting house, a little Rhigi of fertilizing material—not exposed to storms, neither too dry nor too moist, and an unctuous fatness, which will make sundry surrounding fields, in the next season, carry a heavier burden than ever of purple Mangel, or of shining maize leaves.

I perceive, too, very clearly, in furtherance of the illustration, that one acre will produce as much nutritive food, under this

system, as four acres under the old plan of waste—by poaching—and by exposure of all unanrual to the fierce heat of the sun, and to the washings of rain storms. I perceive that the land, as well as the cattle, are all fairly in hand, and better under control. If at any time the season, or the market, should indicate a demand for some special crop, I am not disturbed by any apprehension that this or that enclosure may be needed for grazing, and so, bar the use. I perceive that a well regulated system must govern all the farm labor, and that there will be no place for that looseness of method, and carelessness about times and details, which is invited by the old way of turning cattle abroad to shirk for themselves.

No timid team will be thrashed, in order to wipe the fence posts with the clattering whiffletree, at the last bout around the headlands. There will be no worrying of the Buckeye in old and weedy corners; not a weed nor a Golden-rod can wave anywhere in triumph. The eye sweeps over one stretch of luxuriant field, where no foot of soil is wasted. The crops, in long even lines, are marked only by the successive stages of their growth, and by their coloring. There are no crooked rows, no gores, no gatherings.

If the reader has ever chanced to sail upon a summer's day up the river Seine, he will surely remember the beautiful checker-work of crops, which shine, in lustrous green, on either bank beyond the old Norman city of Rouen. Before yet the quaint and gorgeous towers of the town have gone down in the distance, these newer beauties of the cleanly cultivated shore-land challenge his wonder and admiration. I name the scene now, because it shows a cultivation without enclosures; nothing but a traditional line—which some aged poplar, or scar on the chalk cliff marks,—between adjoining proprietors; a belt of wheat is fringed with long-bearded barley, and next the plume-like tufts of the French trefoil, make a glowing band of crimson. A sturdy peasant woman, in wooden sabots, is gathering up a bundle of the trefoil to carry to her pet cow, under the lee of the stone cottage that nestles by the river bank.

And I indulge my fancy with the idea of some weazen-faced New England farmer

looking down upon all this from some shattered loop-hole of the wrecked chateau Gaillard, and saying—"Gosh, ef a critter were to break loose, I guess they'd have a time on't."

There are some things we New England farmers have not learned yet.

I trust, Mr. President, that if you and I live out the allotted three score and ten years we shall witness the great change produced by this system on your own farm long before you find it necessary to order your ascension robes!

President HOFFMAN—With such a showing I am constrained to say there is certainly something in soiling which claims our attention. I think I have stated here on another occasion what was told me by a friend in Orange county, who gave it a trial for one year. He had one hundred acres of very rich land. I visited him a year after the trial, and desirous to obtain information, I asked him why he did not continue soiling. He answered: "There are two objections. One is, I got too much milk." I thought it a singular objection, but it was partly explained by the fact that in the year of his trial milk in New York was low and the cartage consumed all the profit, so that the more he handled the worse for him. I wanted the other objection and was surprised to hear him say,—"It makes too much manure." This he explained by saying that his rich land had no need of such expensive dressing as soiling gave, and he got "sick and tired of drawing manure." He expressed the belief that he could by proper attention to his forage crops, easily keep a cow to every acre of his land. He believed that the grass, by this system, could be so improved in quality that when made into hay, there would be less need of meal than with ordinary hay.

We are educated to the ways adopted by those who preceded us. We are creatures of habit. It is this which makes us look upon any radical change with distrust. To us it would seem funny to have the cattle carefully shut up while luxuriant pastures were close in sight. It is a shock to habit and nothing more. All of us do more or less of soiling, and some of us must adopt it fully

soon. Sowed corn, probably one of the poorest of soiling crops, is nearly our sole venture, and all agree that there is profit in using it. For the successful practice of full soiling there is needed a year of preparation and a succession of crops that will afford at all seasons good and abundant food. I should recommend for this purpose the cultivation of cabbage, for I believe a given area will produce far more nutriment in cabbage than in sowed corn, and it is not susceptible to injury by heavy frosts, which would destroy the corn. First in order I would sow rye in August, to be cut for feed about the middle of next May. The ground should be thoroughly enriched to insure a good growth.—After the rye, green oats and then sowed corn, and after that cabbage with beet and turnip tops. But with both the cabbage and the turnip tops there should be given feeds of meal, that no bad flavor be imparted to the milk. Corn meal and bran mixed would be better than meal alone. On all these feeds, with clover and grass cut in season, the season from spring to winter can be safely passed.

Several other speakers, including Messrs. Geo. Harris, Geo. McCann, J. F. Beecher, Geo. Congdon and Carmy Compton, continued the subject. Mr. Congdon related an experience with rye cut as green food. A crop upon which he commenced early gave three cuttings, which was a matter of surprise to some of the members, but was authenticated by the experience of others. Mr. Compton narrated an experience covering a considerable part of the past season, in which the results were so very favorable that he intends to adopt the full practice as soon as the necessary arrangements for a proper succession of crops and for the feeding can be made.

On the whole the Club has never before exhibited so much interest in soiling. It is now almost assured that extensive preparations will be made by many of the members for a full adoption of the system within the next season.

"Farm Accounts" will be discussed by the next meeting.

SATURDAY EVENING, NOV. 21, 1874.

Many of the members who are usually in their places were absent from this meeting for causes which served as valid excuses. President Hoffman was detained at home by ill health. Mr. John Bridgman was assigned to his place. The thin attendance might be explained on the theory that the subject for discussion was distasteful to the absentees. Farm accounts seem to be regarded as intricate and puzzling problems, quite beyond the requirements of most plain farmers, who are content to invest their money and toil and care through years burdened with earnest effort, and no where a landing place for observation.

Mr. HARRISON, of Grand Rapids, engaged the attention of the Club for a few minutes after the opening, in a description of a neat, and strong farm wagon, for which he acts as salesman. After affording adequate guarantees for all the excellence claimed, the chief point in his speech was the exceedingly low price for the wagons put down, freight paid in Elmira. He objected to giving the offer the publicity which would be inevitable if it were incorporated in the report of the proceedings because he did not propose to keep his offer open for any considerable time. He, however, authorized the Secretary to communicate the price with his references, to any farmer desiring to purchase within a few days. These will be furnished on application, meantime it is but fair to say that the Club considered his propositions well worthy of consideration, and with one accord pronounced his offers very favorable to those who desire to become purchasers.

Less than the usual list of wants was reported, the chief one being five hundred bushels of nice clean oats by Farmer Congdon, who is well known as a liberal buyer, looking more to the quality of his purchases than to price.

These matters being over, Mr. Bridgman in the chair said; "Farm accounts has been selected for discussion, and it is unfortunate that so few of our farmers are here to express their opinions on so important a matter. Any who are present can have freedom of speech on the subject."

W. A. ARMSTRONG—When one reflects

that agriculture in this country is a business which employs more capital than all other kinds of industry—that its products are annually greater in value than the aggregate of all manufactories, and of mining, and of public improvements for the same period, it is surprising that it cannot present more accurate statistics of cost. Even the estimates of production are from the necessities of the case, but little better than conjecture because there is everywhere such neglect of figures that positive knowledge is impossible. For this reason prices are but arbitrary resolves of a few men in position to operate for profit in the well earned fruits of the farmer's labor. Even the government, through its agricultural bureau, can only approximate the truth regarding the amount of crops, with not even a guess at the cost. There is no method by which these facts of vital importance can be made to appear under the present careless disregard of records by farmers themselves. The year opens with labor in which they actively engage, and as each succeeding month comes with its tasks they are met with muscle, but the lightening processes which come through intelligence are neglected, so that with the close of the year the lessons of experience are utterly lost, except so far as the treacherous memory of overworked men may have served here and there a scrap of knowledge to direct future efforts.

There is a common complaint that "fencing does not pay." That is a guess of tired men. Ask them for a statement which shall prove the expression and how many can give it? Ask how much is the cost of producing a bushel of oats, or of wheat, or a pound of butter, and if any answer comes, it is a guess sustained by no record of facts—a mere general estimate of the chief items of cost and a rounding off with a jump as though the query were anomalous, and in no sense worthy of consideration. What right have men to say that "farming does not pay," unless they can bring some proof of the assertion other than dicta? Pressed closely these men sometimes reluctantly admit that by the rise of land they do receive profit, but that is the only source of gain to the farmer. How absurd! If the farmer has not improved his land while it has advanced in

value from fifty dollars per acre to one hundred dollars, how can he produce his grain more cheaply after the advance? And if he can not produce more cheaply how is the profit of farming greater? The truth is the advance of land is no profit whatever until sales are made, and instead of cheapening products they are made dearer, because taxes are greater. Of course this supposes that the advance is due to other causes than increased capacity for production. And it is likewise true that farming does not pay in spite of the asseverated objection. But there is proof that it does afford profit, in the general and continued prosperity of the country for we are not distinctively a commercial nor a manufacturing people.

If we could have a full and accurate understanding of the amount of agricultural productions of any given year, with the figures which represent their cost, there would be the basis of intelligent farming. We should know what crops have too much attention and what too little. We should know wherein profit lay in each particular locality and how to apply labor to its best uses. We should know, what our crops are worth rather than what they will bring, and we should know whether it would be better to work them into finished products or to put them raw upon the markets. All this would come with the careful keeping of farm accounts about which there need be no difficulty if the effort were made with anything like such determination, as the farmer carries to the execution of heavier tasks. It would be an insult to the intelligence of the Club to question the ability to keep such records. Whoever is unfit to do it is unfit to be a farmer. The inclination is all that is lacking. With that it would be just as easy to say what a bushel of oats, from any given crop, has cost as for the President to name the cost of a quart of milk—a branch of knowledge in which he is more deficient. Let us see how much is necessary. A record of the expense includes first the plowing.—That is easy. Of the dragging and other necessary fitting. That is easy. The seed and the sowing—the harvesting and threshing—all easy. Where is the intricacy in the problem of cost? With these records com-

plete how plain a matter to divide the total cost by the number of bushels produced, and so ascertain the cost per bushel! Or to go farther with such records, the sum of production in all the fields of the farm will plainly show the percentage of profit on the investment. If it will please the objectors more let us admit that such record will show the percentage of loss.

If a farmer has a family he will tell you they must have support, and that he has no way to make it except from his farm. How hard that is! Still he does not see that is rather hard on the farm to give it no credit for such support. Perhaps he could not do much better if he was planted in Wall street with the amount of capital which his farm represents, as a start in business, and in that case he would say that Wall street doesn't pay.

This matter of farm accounts has been before us at other meetings, and the discussion has not borne profit. Perhaps it will not now, but let us at least hesitate to repeat the stories of losses in farming unless the figures can be brought as proof. Let us teach no such lessons as that published to the world by a distinguished member of this body, who in the spring discussions gave us his estimate of the average yield per acre of corn in this fertile valley, and appended the surprising statement that every acre of full average yield involved a loss to the producer of six dollars. Let us first inform ourselves by the facts and the figures by the record, before we out such discouragement in the way of those who might bring to our tasks more intelligence and better methods than we use. Before we talk glibly of losses let us be able to produce the records to substantiate his assertions. Mere guesses in farming are not much better than in other kinds of business, and good, sound and successful men in other pursuits do not rely much on guesses. With the approaching year let us hope that our members will open and keep accounts.

Mr. OWEN—In my situation it would prove very difficult to keep a strict account of all farm operations because there are so many different interests of different degrees of magnitude. I have never kept accurate

farm accounts, for in the last twenty years, I have been satisfied with the dairy system as being more productive of real profit than grain raising, and have accordingly stocked the farm with cows, depending on them for the best proceeds, and raising only such grain as seemed to be required for the proper employment of the fields and for the needs of the stock. Having spent so much of my life in dairy regions I do not claim to know much about the necessity of farm accounts in other branches of husbandry. I admit the necessity of more complete knowledge about the cost of dairy products, but in my situation it appears rather difficult to obtain such information so we continue along doing the best we can in the absence of figures and possibly with nearly as good results. Still there is the necessity. We should know what our products cost that we might better know how to sell. By carrying through a course of years a system of accounts by which we shall arrive at the cost of production, there would come precise knowledge about the proper course to pursue. We should learn what crops produce profit and what are attended with loss. In some cases we should fortify belief while in others our theories would no doubt be upset. I have always entertained an opinion that as a grain crop, corn brings with us in this valley, the most profit, a principal argument in proof being that the stalks do so much for the winter keeping of cows. But I cannot say what is the average cost of a bushel of corn, although it would be difficult to persuade me that a fair crop is attended with loss.

MR. BRIDGMAN—Can you tell us the cost of the field reported here some time ago, in which one acre gave two hundred and forty bushels of ears? You will remember the cost was then asked.

MR. OWEN—The husking was not then finished, but it is now. The field was twelve acres. The whole cost was one hundred and forty-five dollars and forty-five cents, or twelve dollars and twelve cents per acre. The items which entered into the cost and their proportions were:

Plowing ten days, at \$3.....\$ 30 00  
 Dragging three days, \$3..... 9 00

Marking (one horse).....	2 00
Planting, five days, \$1.50.....	7 50
Hoeing, twenty-five, \$1.50.....	37 50
Cultivating and plastering.....	27 50
Plaster, 1,400 lbs., say.....	5 50
Seed, three bushels, say.....	2 45
Cutting.....	24 00

\$145 45

This is the cost of the crop before husking, and of course all will agree that the stalks much more than pay for the husking, but as I have not a report of that item of cost, it will not quite make up the cost of the grain and the stalks separately.

One of the chief difficulties in keeping farm accounts is in the cost of team work, the teams being owned and kept on the farm. In this case the price allowed has been that at which the labor could be hired, and that is certainly enough, because that will always do the work. But if we were required to ascertain the real cost of teams kept on the farms, sometimes idle and sometimes at work, but fed all the year, the problem becomes difficult. In our lumber business we consider it cheaper to hire team work than to keep our own teams, so for the hauling of a million feet a year we have only one team, and that is used for odd jobs which the men who are hired dislike to undertake. But in farm work it will not do to depend on hired teams because they might not be forthcoming just at the time when needed. It is a necessity to keep the teams on the farm even if the cost be greater.

I confess it has always appeared strange to me that we should know so little of cost in the business which is our life study. Perhaps it is because there has been no system of keeping farm accounts devised which has proved suited to the need. There are blanks advertised for this use, but I have not seen them. Just what we want in these days is to know something more of precise results.

MR. OWEN having taken his seat no one seemed willing to utter a word in favor of keeping farm accounts.

MR. BRIDGMAN, by a happy inspiration, called Mr. Billings, and as happily excused him after his brief speech.

MR. BILLINGS—I have always been so much troubled by store accounts that I resolved

long ago not to have farm accounts!

Mr. D. C. CURTIS.—The necessity for keeping accounts is apparent in all kinds of business, and certainly not less in farm affairs than in other transactions. Go to any banker or merchant or manufacturer, and you find that he has an accurate record of all transactions. He can show you at the end of the year not only what has been done but the cost of doing it, and the profits or losses. This is essential to his success, but not more so than to the proper understanding by the farmer of his business. In my business as an attorney I have often been saved great annoyance by having proper vouchers to show what otherwise might be doubted, and this necessity appears more in dealing with farmers than with other classes, for it is so common for them to trust all their affairs to memory. Not long ago having made a collection for a farmer, he called on me for the sum, and I felt sure that it had been paid. On referring to my journal it was charged to him, but I did not recall the incident of payment, although I could not doubt that the book was right. Taking down my checks which had passed through the bank and been returned to me, I found one drawn to his order for the exact sum, endorsed by him, and of course paid. That settled the doubts and illustrates the need of careful records and vouchers in all accounts.

Besides this protection there is in keeping accounts that discipline which is likely to aid in all the business affairs of the farmer. It makes him more methodical, and so adds to his knowledge that he can be able to lopp off useless or unnecessary expenditures. It is directly conducive to success. There may perhaps be more necessity for elaborate book-keeping in bankers' and merchants' accounts, in the fact that they have more persons with whom to deal than farmers have, but to the full understanding of his business careful accounts are as essential to the farmer as any man.

I have noticed that much litigation grows out of this carelessness among farmers, by which they are content to trust to memory affairs which should go upon record. A hired man in the fall claims more than the

farmer is disposed to allow. He denies payment which the farmer alleges has been made, and both having trusted to memory the accounts of the season, the disagreement leads to law, which may be profitable to me, but is certainly not to them, and there should be no necessity for resorting to it. As to the difficulty of keeping the accounts, it vanishes with the undertaking. There is no more trouble in keeping full and complete records of all transactions than in making a memorandum of purchases at the store and certainly every average farmer has intelligence enough to do this. A little attention day by day when all is fresh in mind is all that is necessary, and but very little time is needed.

I apprehend that whoever undertakes any system by which such a record will be made will find the profit so great that he will after the first year of trial never again feel able to conduct his affairs without it, and that it will year by year make him more successful.

Mr. VAN DUZER.—I supposed this matter of farm accounts meant more particularly such records as would enable us to know the cost of crops and the profit or loss attending their production, rather than the keeping of ordinary business accounts. Having entered late, I do not know what former speakers may have said, but I have heard of a supposed difficulty in keeping farm accounts, on account of the intricacy of the methods. Now, it is not a serious task to make such a farm record as will show all important transactions and the cost of every crop. All that is needed is a daily journal in which every day the farmer should enter what has been done on that day and what it has cost. He knows of course the cost of the labor which he hires, and it is as easy to set that down and as easy to put down every other item of expense. At the proper time he can enter the several items in the ledger against the crops for which the expense was made, and he thus has the figures to show what his business is doing; even showing where profit is and where loss is. This is very important to his success. It leads to the lopping off of those parts of his business which do not bring profit. He shows cause. He finds

this record will enable him to work more intelligently. He knows the cost of plowing, of dragging, and of harvesting, by which he can decide where to retrench, if there is anywhere too much expenditure. He learns, too, to make better estimates of cost for such operations as he contemplates. If he has raised a field of barley and taken accurate account of cost and account of sales he knows just what has been paid on his labor and capital.—Now as it costs more labor to put in a crop on some fields than on others he is able to estimate the probabilities of profit in other situations. On a rough or stumpy field he will make allowances by which he is prepared to decide if it is better to venture upon that field at all. And then again he learns that meadows with a small yield of grass cost too much. The mowing is just as expensive for an acre of grass that gives one half a ton as for another acre that gives two tons. So he plans the methods to bring up his meadows to a higher standard thus reducing the cost of his hay.

A good result of keeping farm accounts is noticeable in the dairies which send milk to factories. I remember in the beginning of my cheese making many of my customers wanted to drop off on the first of November, or earlier, and others wanted to milk but once a day. My contracts were to the first of December, and I was obliged to hold them. So in the spring they wanted to begin in May. Now, after some years these farmers having had their accounts kept for them by the factory, they want to begin as soon as I am ready or before, and they are very willing to stay until the close of the season, milking up closely twice a day, and feeding extra feed to increase quantity. The truth is they have learned where the profit comes in and have therefore changed their practices to insure the greatest profit. Without these accounts they would still be practicing the old methods. They have come to learn by this system of daily accounts kept for them that even pumpkins have value, and that corn fodder is worth far more than its cost to make milk.

Mr. BRIDGMAN—For two years I kept an accurate daily account of my receipts of milk, and the amount distributed, as well as

that sold, but the personal supervision in the milk trade proved a very burdensome task and I abandoned that method, preserving, however, such a system of accounts that I am able to know general results with such a system of accuracy that I am satisfied.

The difficulty I apprehend, in the way of keeping farm accounts, is that the farmer comes in tired and is therefore reluctant to attempt any intellectual effort. If he begins these accounts there comes a season of especial fatigue, and he passes the matter over for a few days when he feels intense disgust for the task of bringing up. Habit governs us in this matters as in others. If we had always subjected ourselves to the methods required there would be no difficulty, but I apprehend that old farmers will be very slowly to attempt these accounts.

MR. VAN DUZER—I hope I did not make the keeping of these accounts seem difficult. It is a very simple matter. A daily memorandum of affairs, not requiring fifteen minutes of time, will serve the purpose. So much valuable knowledge would be gained that I cannot see how farmers feel willing to dispense with these accounts. They lead to direct profits. There are many who keep too many horses because they do not know the cost of keeping. There are others who do not keep enough, and so their work falls behind. These accounts show both errors as well as all the other errors of farm management and they are therefore indispensable in everything like intelligent farming. Having diversified interests I have necessarily more complex work, but I have always been able to know the cost of the cheese which I make, and of the pork and the grain products of the farm, as well as the products of my own dairy, at least, approximately.

Mr. CONGDON—It seems to me this should prove the easiest part of farming. In ordinary mixed farming it would require infinitely less labor and precision than in the trade of Mr. Bridgeman. He has to take account of every small transaction, but great in number, whereas in the other case a brief record serves for all that is done.



It sounds strangely to me when I hear so many farmers complain of poverty, and I see that they grow rich. Not long since I was told by one of this class that he was not making anything. I asked him to say what he was doing, and he enumerated sales, and concluded, "I don't make anything. You see I don't get anything like seven per cent. on my land." Well," said I, "you have some pork not counted." "Yes." "And supplies for your family, fruit and grain, and whatever you have raised."

"Why, yes," said he, "but you see I must have their living any way."

"Of course," said I, "but don't you see that if I had money to let at seven per cent. I would have to take out of that interest the cost of purchasing all the things for my family?"

The fact was he was making no account of all the farm produced, except that which he sold. Now every merchant or banker or manufacturer supports his family from the profits of his business; and the farmer seems to think these things are to be taken out of his business without any allowance, whereas they should all count so far as they come from the farm, to the credit of the farm.

One of the great benefits to be derived from the careful keeping of farm accounts is that it leads to careful purchases and payments in cash, and therefore cheaper purchases. Here is a gentleman who has come from Michigan to offer you farm wagons.—He knows exactly what they cost, and if he sells to you he will receive your cash, so, as a means of procuring that, he offers you such low rates that you are surprised. His careful accounts of the cost of construction enable him to give you the surprise, and perhaps make for him satisfactory profit. This business of dealing for cash is worthy of more notice. I met one of our townsmen once who told me what he considered a laughable incident. He was good for all his orders, but he had sent to an Eastern manufactory for a wagon, and had a prompt reply: "Dear sir, your order received. We can not send you the wagon until we have received the cash. We make twenty-five wagons daily, and sell them so close to the cost that there is but three dollars profit on each.

You will readily perceive that this margin will not permit us to take orders unaccompanied by cash." There was in this a lesson of great force. Ready cash makes low purchases. Now careful accounts lead to ready cash, and therefore to greater profits in farming.

Mr. J. R. CONKLING—I have kept these accounts for years in mixed farming, and while the matter is practicable, I cannot say it is unattended by trouble. The greatest difficulty is to divide up time as it is applied to the many different tasks. It is very easy to keep the records of total cost and total production.

Mr. CONGDON—I would undertake to make all these entries in fifteen minutes for each day if Mr. Conkling would report to me what is done. The task is in no manner difficult.

Mr. BILLINGS—He watches his barometer and takes account of the changes. Then he hoes cabbage a little while, and weeds the beets and prunes his vines and fruit trees, and divides the day into twenty performances. Therein lies the difficulty of keeping farm accounts when one desires to embrace every little affair.

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SATURDAY EVENING, NOV. 28, 1874.

All the afternoon rain had fallen steadily, the only change being bigger and more frequent drops as the hour of meeting approached. Nothing can more effectually damp the ardor of the average farmer for evening meetings than a chill November storm. The present instance conformed in all respects to the general rule. But few farmers ventured out, but there were enough to make a very interesting discussion. During the week several letters from other Clubs had been received. Generally they had conveyed a desire for information concerning the workings of this institution, which for years has maintained an exceptional popularity. These letters were submitted to the Club, together with the Secretary's replies, and were the subjects of considerable comment, in fact shaping the

subsequent discussion. A general review of transactions through past years was had, members taking occasion to point out faults or remissness or the failure to profit by the lessons offered, as well as the benefits apparent to all who have attempted to measure the influence of the Club, and the effect of its teachings as shown by improvements in the agriculture of the district which it represents. Mindful of the sentiments uttered as criticisms or as monitory lessons, President Hoffman said:

It is plain that we do not all estimate our responsibilities properly. We come here for self-improvement, and if we attain that object something good is done, but this is not all. What we say here goes through the press to many thousands of readers, who take as deep an interest in these discussions as we do ourselves, and we are made the instruments for shaping thought in a wide field. I believe we have not properly considered this part of our responsibility. No doubt we have had direct profit through this school. The evidences of improvement—of increased knowledge are every where seen in our practices. We have learned to think more fully and wisely of our business. We have learned by experiments conducted with a view to the bringing out of truth.

To-night as I walked along the streets to this meeting my mind was occupied by reflections on the discussions had in years past. I thought I should be glad to meet here our friends McCann and Carpenter, who combated, and perhaps I may say ridiculed, a theory of mine put forth at one of our meetings. I advocated grades of Jersey, got by the use of pure bred males on our native cows, for the dairy whether for milk or butter. I thought I had evidence that the cows obtained by such breeding would have great value. These gentlemen scouted the idea that the little Jerseys were useful for any purpose. They styled them "rats" and "mice." They had been accustomed to feed shapely steers, noting growth, and flesh, and beauty, as measured by their standard. They worked for profit, and wisely too, but they could not see where profit could come out of this diminutive breed. Then I had no thought of breeding for my own use any of the grades, but soon after I

was led to do it, and I have raised ten or twelve heifers in accordance with the theory I advocated. I wish my friends were here to-night to compare notes. These heifers are milking now with satisfactory profit. One that aborted at six months is exhibiting excellent qualities for the milk dairy.

I have mentioned this to show that we are learning through the discussions held here in which we are sometimes led to test our theories, to silence opposition by proof of their soundness, or to satisfy ourselves what is truth. I was led to test this matter of grade Jerseys as milkers to satisfy myself, or to put it in another way, I was driven to it by the opposition of members of the club who could see no excellence in the Jerseys, lacking the one requirement as they viewed it, size.

Another matter, often discussed here, in which I have had for opponents Messrs. Rockwell, Miles, Chapman and others, is the top-dressing of meadows. I have been anxious to establish sod on my grass lands by this method, and have been trying faithfully for years. These gentlemen say my practice is wrong. I confess, after years of effort, my faith is much shaken. I have tried to produce facts to show the wisdom of such use of the manure, while other men have been trying to find other facts to prove my practice wrong. Herein is a valuable means of instruction, I gather all I can of knowledge from my practice and observation of the course chosen, and besides all this I have the benefit of the facts gathered by a like course on the other side. There is good in this. What we want in all our pursuits of knowledge is the hard bonny fact. No theories to be upheld as such. Let all meet the test and fall, if they must, by it, or abide only as so supported.

I am reminded in this connection of a letter received from a Rochester gentleman, a year or two ago. He was interested in an agricultural club, and desired advice about the best means to insure usefulness and permanency. I replied, anything will do better than flowery speeches. Whoever presents the most facts, plain hard facts, is the best speaker, without much regard to his style of oratory.

That we have gained real profit through this club no doubt. We are constantly stepping forward, stimulated by thought which finds expression here. As an illustration I may cite the discussion a few weeks ago on the breeds of pigs. Growing directly out of that many purchases have been made, all of the pure breeds, selected from a wide extent of country, so that the farmers of this valley will be able to change the character of the swine from the common stock to the fine breeds, and if they keep their accounts, as your last meeting showed they should be kept, they will be able, in a few years, to inform us how much more of profit there is in these better breeds, and which one of them is best for our use.

But leaving these practical applications of our teachings, I think I may say that none of us step squarely up to duty in our attendance and labor here; in view of the fact we stand forth as educators through the press. Whether worthy or unworthy, these reports have thousands of readers who are more or less governed by the ideas presented. Doubtless they give us credit for more wisdom than we possess. But this thought, that so many minds are, to some extent at least guided by what is said here, should make us careful to present only truth as we view it, fortifying by such facts as we can bring, ready, always, to abandon error and work by the best lights we have.

MR. BRIDGEMAN.—In what the President has said I fully agree. As an old member of this Club I am ready to acknowledge many valuable lessons obtained through it, and I trust it has yet a great field of usefulness before it.

The President briefly hinted that top-dressing his meadows has not met his expectations. This is a matter in which I am much concerned. I have thought much of the matter, especially for the last two years, led, as I have been to close observation, by the objections to the mode given in the discussions here within the last three or four years. I have believed that such top-dressing of grass lands was the best use to which I could put my supply of manure, but my faith is broken, at least so far as such dressing applies to the renovation of old meadows.

I have had too many total failures. There have been poor, weedy spots which I have top-dressed very heavily with an utter absence of results, if I may except a greater growth of the weeds. In many such cases I have been unable to find any improvement whatever to the grass. Now I am anxious to get the manure from my stables as fast as made, and I have therefore striven to find profit in this application to the meadows because it is the most convenient use of it; but I am compelled to admit that some other means, by which I may realize more of the value of the manure is my present desire. I should be glad to escape the labor of handling three or four times before the manure is applied to the fields, although this course seems inevitable if it is used for winter wheat, in which way I have had the best returns. I confess I do not know what is the best way to use my supply of manure after abandoning the top-dressing of the meadows, which is waste. Keeping cows being my principal business I do not desire any great breadth of grain. For the corn and root crops which I want there is no demand for more than a small portion of the manure which accumulates through the season.

Two years ago I top-dressed one half of a field of winter wheat. On that portion the crop was very much better than on the other half not top-dressed, and a like difference was plainly discernable in the seeding of timothy and clover, the catch being even and strong on the former, while on the latter it was weak and spotted, large plots showing no grass at all. Must I accept the argument and go back to wheat farming? I am satisfied that as I have practiced there is utter waste of the great bulk of the manure. On newly seeded grass lands full benefit may be derived from the manure spread on the surface, but these newly seeded lands mean grain. The old sods are what I want to improve, and I find, after years of trial, that the method is ineffectual and involves great waste. If the President can enlighten me about some more profitable use of manure I shall be glad.

PRESIDENT HOFFMAN.—With your experience, plow this fall and put on the manure where you expect to sow or plant spring crops.

Mr. BRIDGMAN.—My experience with manure put on the freshly plowed land for oats has not proved satisfactory, and I have very little else to sow in the spring.

President HOFFMAN.—Plow the corn ground and the land on which you expect to sow corn for fodder, and manure as the supply is furnished during winter.

Mr. BRIDGMAN.—After drawing out through winter there is enough of the spring make for these needs.

President HOFFMAN.—Well, then I will go a step farther. Plow as much of the dryest ground as you think you can enrich with all the manure at hand, and sow rye at the rate of about three bushels to the acre, after harrowing thoroughly to incorporate the manure with the fresh soil. As soon as the growth in the spring is great enough, before it begins to head, begin cutting and feeding the green crop to the cows, by which you will increase the flow of milk. Continue this feed as long as it gives good results, and what is left may go to ripen, giving profit in another way.

This is a step towards soiling which I may mention as another instance of valuable instruction coming through these discussions, for when we had this matter before us a few weeks ago, I was led to the conclusion that both Mr. Bridgman and myself must soon adopt this method to insure continued profit from our cows. I only regret that I have not the manure to use in the way I have advised that I might hasten more rapidly to soiling. My yards are dry and clean so that this opportunity with me is lost.

This difficulty experienced by Mr. Bridgman in the use of manure affords another instance of the influence exerted by this club. He has doubtless been led to continue the use in a way which he now regards as waste, by the arguments in favor of the method offered him. I confess to my full share of blame in the apprehension that he has to some extent been misled by my practice. In our earnest desire to obtain permanent grass, perhaps we have tried to discover benefits rather than to note failures. The measure of my success has been greater than his owing to the more favorable soil, no

doubt. I have been an earnest advocate of top dressing meadows because it seemed to afford the only means to establish that character of meadow which we so much desire. Through the earnest and repeated discussions we have been led to closer observation, in defense of our theories if you please, but the result is we have gathered facts by which we are forced to conclude that the wisdom of such use of manure on our soils is doubtful. This whole question of the application of manure is one of which we have too little knowledge. I hope more careful experiments will be made and reported here, and that other clubs will take up the matter and give us more light.

Mr. THURSTON.—Let Mr. Bridgman cultivate a few acres in tobacco and he will be able to get rid of the manure.

President HOFFMAN.—It is easy enough to get rid of it. We want the good there is in it. I am buying manure now, and I want to utilize the virtues it has.

Mr. BILLINGS.—Mr. Bridgman has been putting it on the poorest places. I commend the practice and suggest that he bring it to my place, which is one of the poorest I know of, and will make a fine test of the theory that waste places may be made fat by the liberal use of manure.

I feel so much interest in the matter that I am willing to relieve him of the labor, and with his permission will draw the manure myself.

President HOFFMAN.—My mind has lately been exercised about the proper means for watering stock in the yards. To-day I have been putting a pump in a well forty-six feet deep, to be used in raising a supply of water for the cattle, and as near as I can estimate cost, the expense will prove greater, to put in the appliances for effecting the object, the well being already dug, than the whole cost of a better method. I found myself driven by a necessity and therefore did the work without much time to reflect or to devise ways. I was too late for that. What I have done was to avoid a greater trouble, for without some ready means of supply the cattle would have been driven a quarter of a mile to the river, or what would be my choice

rather than take that evil, the water would have to be drawn and stored in casks for their use. I have been thinking that there are many of us who have springs not more than fifty or sixty rods from our barns, from which water might be brought even without much fall, and by means of cisterns, store for use when needed. Even the supply afforded by the roof conducted into cisterns and there held, would be not only sufficient but in the end cheaper than wells. Such a cistern as this would require might be constructed under any barn on level ground, simply by digging to the proper depth, and of sufficient capacity, grouting the bottom a few inches thick and laying the wall a foot thick in cement. Or if there is a bank at one side the excavation may be made in that which would be better, because the water could be drawn off without pumps. I believe this method would prove less expensive than the digging of a well twenty feet deep and fitting it with appliances for drawing the water—cheaper than to bring the water from a source sixty rods distant, requiring the use of pipes. And while we are about the work it is easy to provide good pure water in abundance for the house as well as for the barn, by the same cistern, having only a filtering wall through which the water must percolate before being drawn to the house.

My recent experience has reminded me of a conversation with a gentleman from Seneca Falls, Wm. G. Wayne, who visited me in the latter part of the summer, and narrated his experience. He had been obliged to drive his cattle fifty or more rods to drink, until he said he "got tired of it." Giving the matter proper thought he devised a plan which by a small outlay of money brought permanent relief. He provided cisterns of sufficient capacity to hold over a dry time, and therefore had no trouble or thought about water for his cattle.

Mr. MILLS.—How much capacity would be needed to supply ten head of full grown cattle?

President HOFFMAN.—I can only guess, but I should say a cistern ten feet long, six feet wide and six feet deep would be suffi-

cient. I have one eighteen feet long, and six feet in the other dimensions, which, when full, serves my cattle four days, and the herd numbers about seventy-five.

Mr. BRIDGMAN.—I think the President makes too low an estimate. I frequently have to pump three hogsheads for one watering of my cows—forty head. They will drink that amount twice a day in mild weather. The animal which does the pumping has often drank in a day five pailfuls of fourteen quarts each.

W. A. ARMSTRONG.—The only thing required is space enough, if the cattle are to be watered from cisterns fed by the rain fall. Careful observation carried through a series of years has shown that the annual rainfall is in this State about thirty-six inches. It is easy to estimate the size of the reservoir for holding this, taking the roofed area as the basis. But of course provision need not be made for all this supply, for distributed as it is over the year, one-fourth or less saved at a time would hardly be used up before a supply would be pouring in. I think it has often been proved by actual experiment, that the water shed by the roof of a barn will supply all that is needed by as many cattle as the barn will shelter. After all, I believe that in situations where there are living springs, even a hundred yards distant, so located that water can be furnished by gravity, that is the best way.

President HOFFMAN.—This question of water supply has been on my mind a long time. While putting in the pump in the forty-six feet well I reflected that I had been driven to an expedient, while I should have been prepared to do something better. I looked toward the spring one hundred and fifty yards distant and thought of the cost to bring that water, which, as I should want it, would be one thousand dollars, for I should not use wooden pipe, which soon decays or becomes otherwise unserviceable, although it is the best conduit while it lasts. I should put down galvanized iron pipe in the start. Then I looked to the roof of the barn and believed a full supply could be derived from that source, but the season is too late. The pump is an expedient. At the corner of the barn

the sills are going to decay and new ones will soon be needed. So I have resolved to take that opportunity and construct a cistern, or receptacle, in the basement into which the water from the roof shall be led and whence it can be drawn by a short lift, as occasion requires, by a pump with, say a four inch bore. There it will be safe from frost, and always at hand.

Mr. ARMSTRONG.—I should go to that spring if it has flow enough to serve the needs, and I should not use iron pipe. Pine logs eight or ten inches in diameter, bored with a two inch augur through the heart, in the old fashioned way, and laid in a ditch three feet deep, the logs connected by means of iron tubes tapering into the ends rimmed to receive them, will last a great many years if in clay soil. If kept filled with water they would be almost imperishable.

Mr. BILLINGS.—Yes, they will last long enough. The reason they have been discarded by many is that each log in the old way was tapered down thin to enter the orifice in the next, and there was the spot where decay set in, and of course one bad spot spoils all.

Mr. ARMSTRONG.—The Elmira Water Works Co. uses wooden pipe, and we don't hear of decay, although as the logs are prepared there is an occasionally weak spot which gives trouble.

Mr. LAMEREAUX.—I have assisted in making many repairs for the Company, and I have noticed the defects are usually bad knots or spots in the timber, which had begun to rot before the logs were placed. The evidences of decay when found are generally at the ends where the logs join.

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SATURDAY EVENING, Dec. 5, 1874,

During the past month interest in the discussions has been steadily increasing, and the attendance growing greater. It would seem also that in the adjoining counties, both in this State and in Pennsylvania, as well as in more remote fields, there is a growing desire for the formation of agricultural clubs,

for numerous letters have been received by the Secretary, requesting information about the requirements of this club, and the practical workings. To all such applicants prompt answers have been given, but the matter being so frequently presented, the club was moved to more full expression regarding the subject of inquiry. President Hoffman in a few general remarks, set forth the advantages to be derived from the practical discussions of the topics which engage the thought and work of all farmers who desire advancement, and then called the Secretary, who said: "These letters coming to us continually during the past few weeks, evince a desire on the part of farmers throughout a wide extent of country, for the realization on their part of the many advantages so fully attained by this club. We meet here regularly to impart and to receive ideas regarding the business in which our best energies are engaged. Perhaps some of us come with plausible theories, insufficiently supported by the evidence of the tried fact. But we desire truth. Our business is so great in its requirements, so varied in its demands, so vast in its proportions, and withal so certainly susceptible of improvement in its best practices, that we must have somewhere a common field which all may enter to carry in what they may and to cull thence ideas to use in the practical direction of affairs. None of us can assume to possess the sum of all knowledge needed to secure the best rewards for our labors. We plow and we sow the seed, we raise cattle and provide their sustenance, we provide the chief necessities of life, and the accomplishment comes often at too great cost of labor because we have too little knowledge. It is true practices must differ, because different situations are attended by different requirements, and may not, therefore, conform to specific rules. It is this which makes us so often appear to those superficial thinkers who regard farming as a very simple business, as playing at cross purposes, with no hope of agreement. Yet we do learn. Who does not know that a wide extent of country has had its agriculture changed through the influence of this club? I may point to the practices of members who cheerfully testify to their own advancement in knowledge, and who give abundant evi-

dence on their farms of the uses to which thought expressed here has been applied. An idea put forth here becomes a public possession, and is subject thenceforth not only to the rasping contact of other ideas, but to the critical tests of multiplied practice.

It is but a few days since two honored members arose here with confession of error. Our President and Mr. Bridgman, both desirous of promoting, by every possible means, a substantial growth of grass such as comes from firm, reliable, compact sod have for years applied lavishly to their meadows of their great supplies of barn yard manure. They believed the end would certainly be attained by these means. Their faith has not been justified. With that admirable candor which proves that the attainment of facts rather than the defence of theories is their desire, they come now before us and say "we have not been able to produce proof of the truth of our teachings." That is the spirit which makes progress possible. These farmers have for years been advocates of the practice which they now propose to modify, and both have often defended it here, but while doing so their minds have not been closed to the logic of facts. It is but an incident, yet it gives fair illustration of the influence exerted by these discussions. Here is a single question in which every one of our farmers is directly interested, the application of manures and nothing but the most general facts regarding it may be set down as fixed. What our friends fail to accomplish on their soils, we all know is accomplished in other situations.

I will not pursue the argument. It needs no proof here to show that farmers' clubs, acting with a desire to eliminate error, from the practices of the members and to produce naked, hard, solid fact to point the way to success, are sure to attain some portion at least of the objects sought.

It has been so often asked "How are these clubs organized and governed?" that I may be permitted to say briefly here what the chief requirements are, perhaps I shall do well enough if I quote the familiar saying, "Where two or three are gathered together

in the name of the Lord, He is with them," and asks inquirers to make the adaptation. Get together in the interest of agricultural progress and in spite of rain, or snow, or mud or even laziness, continue the efforts and it is just morally impossible that no good should reward the efforts. The great interests which we represent can not safely be committed to individual hands. There must be a grouping of facts and ideas to give broad basis to progress. Mere talk will have no effect that is good, but that spirit of enquiry which looks always for light and truth will, while gaining these, be sure to bless others.

As to the government of these clubs nothing is wanted more than careful observance of the proper rules of order. Every intelligent body of farmers will be able to devise means to meet all legitimate expenses. This club, being incorporated, has its general business affairs subject to rules provided by law, but no club need incorporate until its substance is such as to need legal protection.

MR. JESSE OWEN—Of the importance of farmers' clubs and the discussion of farm matters there can be no doubt. The great difficulty in the way of progress is the farmers are so little inclined to thought. They perform enough of physical labor and too little of mental labor. The great need of the times, so far as agriculture is concerned, is more thorough education. There is no other interest so great, but all the lesser kinds of business have more of discussion and plans, and study, about the way of promoting their welfare. In my judgment the whole country would be immensely benefited by the establishment and maintenance of a farmers' club in every township, of course providing that there should be enough of spirit in each of such communities to give interest to the meeting.

As a proof of the advancement which grows out of discussion, and the ventures to which farmers are thereby incited, I desire to speak just here of an incident of which I am reminded by the report of your last discussion. A good word was spoken for Jersey cows. I thought of my experience of the opposition, and the ridicule excited

among my neighbors when, some years ago, I determined to introduce the breed. Among these wise neighbors the Jerseys were called rats, runts, scrubs—the laughing stock of all dairymen. I think my father was chief among those who labored to prejudice the public mind in the matter, but, for the last four or five years, now that the experiment has been made, he has declared that no man should undertake dairying without an infusion of Jersey blood in his herd.

President HOFFMAN—Do you mean to recommend the Jersey grades for all dairy purposes or only for butter?

Mr. OWEN—My experience has been mostly in butter making, but for two years I sold the milk to Mr. Holbert, who, as a manager of the creamery business, occupies the front rank, and the test thus afforded was very satisfactory. The tests of quality were often made by the cream guage. There is a wide difference in the richness of the milk, not only between individual cows, but between different dairies the percentage of cream varying through many degrees.

J. S. VAN DUZER—Different seasons of the year in which the tests are made, account for much of the difference in richness. In the fall, with shrunken yield, there is always a greater percentage of cream.

Mr. OWEN—Yes, that is true, and it is also true that another cause tends to create difference of quality, the kind of feed. Rich, old pasture from close, well set sod, makes better milk than newer pasture.

Now there is another question to which allusion has been made on which we are not clearly settled—the practice of spreading manure on old sod. I have done a great deal of that business, and my experience has led me to conclude there is at least a great deal of waste in the practice. We take too many things for granted. The old way was to draw out the manure and spread it on the meadows immediately after haying. Without much thought as to the wisdom of the practice we fall into it, but through the observations and the criticism of speakers in these discussions we are led to more careful examination of results, and we find that it is not profitable. We have a meadow which

has been untouched by the plow for forty years and it certainly yields, in good seasons, as much as two and a half tons to the acre, without manure. But there are poor spots on which large amounts of manure have been put and without any visible results.

Mr. BEECHER.—Perhaps there was some difference in the soil.

Mr. OWEN.—Not that we could discern. All is bottom land.

Mr. BEECHER.—Why draw on those spots, poor to start on? Why not encourage growth where there is already a sod, and therefore some chance of grass?

Mr. OWEN.—These spots not being good, of course, we desired to bring them up to the excellence of the rest of the field. We have been obliged to employ the plow on some of these meadows where every effort to establish grass by the use of manure and seed had failed. But, once plowed, there seems to be no way to secure afterward permanent sod. I had a meadow twenty-six years in grass, and always good, until one season, at a critical period of growth, there came a drouth which spoiled the crop and the sod so that I had to plow. It never had a good sod again in spite of all efforts to establish it.

Mr. VANDUZER—I have been pleased by many of the remarks made here, but especially by the graphic narration of experiences by the last speaker when he was considering Jersey cows. I have heard them called butter stock, small stock, and even fancy stock, but never before, laughing stock! I am glad to hear the Farmers' Club bring out these good things. Really, there is in these institutions great good. And now, with Granges established all over the country, there are the means of multiplying this good. Every Grange should set apart times and occasions for the discussion of farm matters. Some Granges are already doing this, and find it attended by profit. I attended such a meeting last night, and, although the subject under consideration was not one to excite much enthusiasm, the discussion was really spirited. There is very much good to be derived from comparison of ideas. There is, on the part of many



farmers, a reluctance to speak at these meetings, which is due solely to the fact that they have all their lives been unaccustomed to public speaking. They are afraid they shall not give proper expression to their ideas. Yet those farmers, if they could be shown the sketch of their remarks made by a skillful reporter, while they talk with their neighbors of their stock, their crops, or their plans, would be surprised to find it very readable. Just this is what they should contribute to the club. Certainly they can relate their experiences, state their projects or go farther and make suggestions, and all these lead to thought.

Mr. BRIDGMAN—I am not yet satisfied about the manure question, although as I stated at a recent meeting, I am convinced that it is total waste to spread it on some parts of my meadow. A large field which I have been very anxious to keep in grass is passably good at one end, half or more being worth saving, and of the remaining half there are considerable portions of tolerably good sod. But the poor spots, which have been abundantly top dressed again and again, give no signs of improvement. These spots are mostly gravel. All my efforts to cover them with sod have resulted in absolute failure. I see here Mr. Donald, of Veteran, who is reported to have surprising results from the use of straw spread on grass lands. From him I should be glad to learn if through this course there is hope for me.

Mr. DONALD—For the last seven years I have been actively engaged in farming, as in fact all my life I have been a farmer except that for fifteen or twenty years previous to this last venture I was engaged in other business so that I was only an observer. I may say that even during that period I never lost sight of nor interest in the business. All my observation has tended to prove that Nature is a good guide to follow. All have noticed that road sides, not pastured lanes, and fence corners, yards and protected places about buildings, produce good crops of grass year after year, without any fertilizing by manure. I have asked myself what is the reason? Why should not these places cease to produce? I have been led to look for the causes, for there is always a

cause for these things. Take the poorest, hardest piece of land in the county, and cover it over with stone, keeping it sheltered the whole year, and its condition will be totally changed. I do not pretend to say why, for it is enough now to know the fact, but reasoning by this I have been led to use other and cheaper covering with just as much of good results.

A few years ago I had a farm at Dean's Corners, where it is said "hard pan approaches the second rail in the fence," and there was on it an old meadow which had been twenty years in grass, or weeds, and I found almost nothing but weeds. Rumaging about the place I found a heap of something which had lain for years unmolested, and on digging into it I found it was composed of ashes. Of that I drew forty loads on the worn out meadow, although often informed by kind neighbors that it would spoil the grass, which warning failed to alarm me because there was not enough grass to be worth preserving. Well the result was that the next season gave as luxuriant a crop of grass as I ever saw. Not so thick, it is true, as good sods produce, but clean grass standing three or four feet in height. I sold the place next year, but after three or four years I saw the man who had it and asked him how the grass lasted. He said it was good until plowed, and he had raised wheat and other crops on the field, all of which were good.

When I moved from that place to the farm I now have, I found on it a hard, dry knoll, which scarcely had any growth of grass or weeds, stunted daisies being the chief production. On that I drew a covering of clover straw. The next season there was a fine growth of grass, although not thick, but rank and strong. Then I plowed it and the soil turned up light and fresh.—I had a crop of barley on it which gave forty-three bushels to the acre, and the clover was very thick, quite as thick as any I ever saw from seeding, but I plowed it under for wheat and had a good crop, and on that seeded and the seed took well.

Another small piece of like poor character I kept two years covered with wheat straw, by which a total change in character was effected. It was at the beginning too hard

to plow. It took two men on the beam to get the plow in, and then one team could not draw it. After the straw covering it plowed easily. Last season I sowed on it winter wheat and top dressed, or covered it with straw, and in January sowed clover seed. The straw was spread thickly enough to hide the wheat, but it lived through and I am confident the yield was forty bushels to the acre, and the clover seeding as fine as could be desired.

Last spring I drew on a worn out sod a good thick covering of straw, calculating to break it up for corn, but the work was a little more than I could reach, so I let it go, and I never saw a finer nor more luxuriant growth of grass than that which grew up through the grass protection. I conclude from these experiments that grass needs protection from the hot, burning sun of summer, and from the freezing winds of winter. Such an office the straw performs. I believe that the continued grass along highways is due to the protection afforded by the growth which is suffered to remain. I believe that straw is worth ten dollars per ton to spread on grass lands, although in the market it brings only eight dollars, and farmers are foolish enough to draw it for that. I have so far escaped that poverty which would drive me to sell it at all as long as I have any soil to renovate, and I hope I always shall escape it.

Sometimes I take the liberty of advising my neighbors that it would be much better to borrow ten dollars than to sell a load of straw for that price.

As to Mr. Bridgeman's meadow, I am sure if it were mine I would cover it with straw as early in the season as possible, and then at the proper time I would sow timothy seed, expecting the next season to have a thrifty growth of grass.

Of course I cannot say he would find this result on spots nearly all gravel, but on sandy spots on my farm success has been perfect.

G. S. McCANN.—Wouldn't you do just as well to burn the straw?

Mr. DONALD.—It would not be giving the protection which I think is the chief benefit.

Keeping the roots protected is one of the main elements of success I apprehend.

R. C. ARMSTRONG.—In removing the straw which was left on the fair ground, and lay in little heaps for six or eight weeks, I noticed that every spot which had such protection had also a growth of grass fully twice as great as that on the surrounding ground, not protected.

Mr. OWEN.—In corroboration of Mr. Donalds' theory, I remember years ago a border of grass field gave no crop, and I concluded to cut away a strip of timber adjoining it, a rod or so in width. In the cleared field along by the timber there was nothing growing but fine finger vines. In falling the trees many of the tops went into the field and there was a heavy growth of timothy grass which came up under them. I had the brush drawn away and straw drawn and spread about. No other manure was used, but there was good grass on that strip for many years after.

Another piece of four or five acres was almost surrounded by woods. It was treated in a similar manner and produced like results.

Mr. DONALD.—Observation is an excellent teacher. We see good results attending certain practices and we are supposed to learn the lessons. Yet here is a gentleman who narrates to us what he observed years ago regarding the use of straw in restoring worn sods, and but a little while ago he was telling us of his failure to restore grass by the use of barnyard manure, thickly applied. If he has gained knowledge he has failed to apply it. [Great laughter.]

There is no joke in this. Let us talk of facts, and I point out a fact when I say he should have used the knowledge he gained years ago and saved the great quantities of barnyard manure he has put on the poor spots of his meadow. I have read the reports of these discussions for years, and while I have been interested and have often wished I could join you more often, I have not failed to notice that you do not settle questions. There is too much guessing at results. I noticed that the President asked the gentleman when he was lauding Jersey cows if he meant to approve them for all

purposes or just for the butter dairy. It needed the question to put the matter right and send it forth as fact, that these cows are only good for the butter dairy. But for that question, men who do not understand the characteristics of the breed might run and get Jerseys to make cheese or milk and be disappointed. However good these cows may be for butter, most of us know they are not of the right breed from which to sell milk.

I believe I can show as much of farm records as any member of this Club, except perhaps the Secretary. But I noticed when you discussed this question of accounts a few weeks ago no one produced any figures of his keeping. So a few years ago you discussed fences, and a learned blacksmith estimated the duration of a well seasoned white oak post, at twelve or fifteen years. That caused me to write to Orange County to ascertain about the fence along a certain lane where the posts had been set on one side, with a hole bored in near the bottom and filled it with salt, and on the other side set without such preparation. The answer came promptly back, but it being March, with the ground frozen, careful observation could not be made. As it appeared, the posts were good on both sides, with no difference discernable. Now I had helped set those posts of green chestnut twenty-six years ago, and I doubt not they are still standing. So along Lake street, in this city, there are posts standing which I drove twenty-five years ago. The big ones are all gone but many of the small ones are yet good. Even a split hemlock will last a dozen years.

Mr. VAN DUZER.—We want to be exact here, and I therefore ask if Mr. Donald has his private mark on those posts? For I am afraid they may have been changed. [Laughter.]

Mr. DONALD.—I saw them so often that I know them. Yes, I may say I had my mark on them.

Mr. VAN DUZER.—I am glad—because we must be particular as to facts.

Mr. OWEN.—I can explain to Mr. Donald in the fact that when I lived in Orange County I raised plenty of straw to put on

grass, but here in Chemung I cannot get enough to bed the cattle.

He speaks of the durability of fencing materials but there are plenty of instances in which the stuff of which fences are made has lasted much longer than the time he mentions. I know a worn fence which has stood with scarcely any repairs except occasional renewal of stakes, for fifty years. The rails are of swamp cedar.

Mr. G. S. McCANN.—There are many persons who say there is no benefit to land to be derived from a coating of straw. I asked about the burning a little while ago, because there are some who think the land is as much improved by the burning of straw on it as by the rotting. Besides I am somewhat interested for I had a hundred or more loads burned by the sparks from a locomotive. I called on the railway authorities for payment of damages, and they told me it was quite as well to have the straw burned as to let it lie and rot. [Intense merriment.]

Well, I thought it was funny, but I begin to think there is truth in it.

To leave that subject I would like to have the President describe a good cow.

President HOFFMAN.—And that is what I would not like to attempt. If you show me a cow I will undertake to point out her faults as I view them.

J. S. VAN DUZER.—What is a straight cow?

President HOFFMAN.—A good one.

J. S. VAN DUZER.—That is defined clearly. notice members speak of top dressing the poor places on their meadows. Wouldn't it be better to put the manure on when there is some growth to encourage?

Mr. BEECHER.—That is the query which was in my mind when I asked Mr. Owen why he put the manure on the poor spots. It would seem that he expected manure to make grass without any sod to start on. I have always had good results from the use of manure on grass land, and so I have from straw, but I always put it where the grass is, rather than where it is not.

President HOFFMAN.—Does not the straw interfere with gathering the crop?

Mr. BEECHER.—I never had trouble with it.

President HOFFMAN.—Do you not suppose that the manurial properties of the straw are of great benefit to the grass?

Mr. BEECHER.—No. I suppose the mulching is the improvement.

Mr. DONALD.—You all know Frank Hulett as a successful feeder of cattle. He draws straw as a thick covering on his meadows after they are mown, and the grass springs up fresh and rank the next year, always giving him good crops.

G. S. McCANN.—I think it is poor policy to pasture meadows after haying. I believe if after haying they should not be grazed they would get better and better without manure.

President HOFFMAN.—Would it be well to cut the second growth and let it lie spread as Mr. Donald does his straw?

G. S. McCANN.—I don't know. I am very well satisfied that it should not be removed, but I do not know that it should be cut.

Mr. DONALD.—The second growth if cut and left on the ground would be injurious because it would lie so close as to smother out the roots if there should be much rain to pack it. Straw lies lightly and there is under it a circulation of air. I saw a piece of clover, the second crop, cut for seed, and there came wet weather so that it could not be gathered, and the consequence was the roots were killed, so that the next year there was no clover.

President HOFFMAN.—Have you not known clover to be killed by the winter in fields not mown for seed, and the crop left on the ground? Do you know that the cause of killing was as you have stated?

J. S. VAN DUZER.—We must be particular here. We have just been informed that the Club does not present enough of fact. It seems to me that his statement has one fact in it—that the clover did not appear next season.

Mr. DONALD.—The clover was killed, certainly, and I suppose the crop left lying on it was what killed it.

President HOFFMAN.—But in view of that other fact that clover is often killed in passing the winter, without any direct cause which we can point out, it will hardly do to present it as a fact, that the crop left on it killed the clover in that particular field.

R. C. ARMSTRONG.—As an illustration of the benefits to follow protection by the after growth, I may mention an experience narrated to me by Mr. Dunlap, of Hornby, Steuben county. He told me he had a field of about a dozen acres, from which he gathered but six loads of hay. He suffered the after growth to remain, and the next year the crop was twice as good. The third year he applied a light top dressing of barn yard manure and on the fourth year the field gave thirty loads of hay.

J. S. VAN DUZER.—Mr. Donald in his remarks about Jersey cows conveyed the idea that for a dairy from which to sell milk they are not suited because they give rich milk. I wish it could be understood that rich milk is what buyers of milk want. Of course I could not expect those who bring milk to the factory to get Jerseys for the purpose of making rich milk. Yet, while I am satisfied with the character of the milk brought, I know there are many who aim only to produce quantity even at the expense of quality. Milk has three constituents—its better properties, caseine and water. Poor milk has only more water. Of course no man could be justified if he were to dilute directly with water, but so far as the products are concerned that would be as well as to use cows that give poor thin milk. All buyers want good, rich milk, but there are cows which never give such milk, although so far as quantity goes they are good cows.

Mr. McCANN.—Some years ago my farmer tested the milk of different cows, and he found that the cows which gave the most milk usually gave the best.

Mr. VAN DUZER.—And that proved nothing except that his best cows were good milkers. Milk may be rich by the cream gauge and not rich in caseine, and some cows, or breeds of cows, may be excellent for cheese making but not for butter making.

President HOFFMAN.—Those gentlemen who have recommended the Jerseys, I suppose, have not meant to be understood as advocating the use of the pure breed for the dairy. My experience and observation have been confined mostly to the grades, and I should say that for ordinary dairy purposes the cross of a pure bred Jersey male on our best milkers would prove better for our practical dairying than thoroughbred cows. By such a cross the richness of the Jersey milk might be in a great degree preserved without diminishing quantity to much extent. Possibly Ayrshires would be the best breed on which to cross, but in any event good milkers should be used.

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SATURDAY EVENING, Dec. 12, 1874.

This meeting being close to the anniversary of the Club, many of the old members prompted thereto by the ladies of their families, expressed their desire for a re-union to which should be invited such friends as would derive pleasure from the social entertainment. The delights of the party of 1874 were recounted and used as arguments for a similar one this year, although the provision for personal comfort is somewhat restricted by the business conducted in the first story of the Club building. But with an earnest disposition to accommodate, the parties having charge volunteered to take every trouble of providing suitable room for tables, leaving nothing in the way of pleasure seekers. The Club therefore made the necessary provision for the coming festivities so far as the management is concerned by appointing the proper committees. To will is to do with this body. The many friends of the Club may therefore expect to receive soon their invitations to an entertainment which will be characterized by that broad hospitality for which farmers are noted.

Passing this matter, Mr. James McCann made announcement of the death of Edward Ward. He said: While we have been considering the proper manner in which to note the anniversary of this institution in accordance with our established custom, let us not forget that one of our valued members lies to-night cold and lifeless, having finished

his work here. We have all been interested and instructed by the lessons he has given us here. He was an earnest worker and good thinker in the business which he had chosen. For many months we have missed his presence, not because he had lost interest, for his thoughts were with us, but because his feeble health would not permit him to join us. We owe to his hereaved family and to ourselves an expression of the regard in which Edward Ward was held by us all for his manly qualities illustrated in a useful life. Let us therefore, as a token of respect, attend the funeral, where our sorrows shall mingle with those of many friends, earned by a life of honest worth, unpretentious but valuable in the lessons it leaves to those who are left.

W. A. ARMSTRONG said—It is well to make pause, that we may consider the protecting providence which has hitherto kept unbroken the circle of active members of this body. Death has not often entered our ranks, but now for the first time is taken one who used to enter here zealous in his work, an effective speaker, possessed of that knowledge which made him a valuable instructor to many whose experience and observation were bounded by narrower limits. Edward Ward was a farmer from choice. Peculiarly fitted by years of intelligent effort, in which griculture had been a study, with fields of labor more expensive than those surveyed by the most of us, there was grown up with him a love for farming. This Club has by his death suffered a great loss. I do most heartily approve the suggestion made by Mr. McCann.

It may be proper here to say that but little more than a year has passed since our ranks were first entered by death. A member whose age and whose habits did not permit him to meet us here to discuss the topics in which in common with us, he felt warm interest, was then taken; and to-night the home broken by that grief is again in mourning, death having entered again.

But a few weeks have passed since another member of this Club was carried to his last narrow home, and now we are again reminded that work for us all, at the farthest, must soon be ended.

The real business of the meeting was introduced by its correspondence. A house in this city largely engaged in the agricultural implement and seed trade sent in excellent propositions to members, by which no doubt many farmers will be led to make purchases. Offers of this character are alike advantageous to the parties concerned. Farmers buy their seeds and their tools where they find the best articles, and the disposition to deal fairly and honorably. Such propositions as these, so communicated, really give the most direct and satisfactory means of advertising.

The next letter was very suggestive of possible saving in the management of farms. It excited the principal discussion of the evening in the absence of any topic especially assigned. The writer is a thoughtful gentleman, who through a long life has given much attention to farm economy and who has performed valued service in behalf of agricultural improvements. The letter follows :

MILLFORD, Dec. 9th, 1874.

"In a recent number of the *Tribune* attention is called to the law of Fences, by a writer in Halifax county, Va., who thinks that all laws in relation thereto ought to be abolished, and a law substituted 'compelling all men to take care of their own animals.'"

"He says: 'As the war left no fences in many sections, we have done away with all legislation in regard to them, and now simply require every man to be responsible for the keeping and good behavior of his own animals. Every man is at liberty to build fences around his crops or not, as he chooses, but is compelled to see that his cattle do not injure his neighbors. The complicated laws about fences are as obsolete as those about slavery, etc. So it now appears that one loss—the destruction of fences—which the people of Virginia regarded as one great calamity of the rebellion, has proved a blessing in disguise.

"Now, knowing the great expense to which we are often subjected by being compelled to build line and other fences where we do not want them, wholly to accommodate some other man, would it not be well to ask the next Legislature to so amend the 'Fence Laws' as to allow every man to build fence or not, as he chooses, *holding him responsible for the conduct of his own animals?* And would not such a law save much contention and litigation, and teach every man his duty in this matter?"

"Please consult your Club on this question and let me hear your conclusions soon."

H. SEAMAN.

W. A. ARMSTRONG—This subject has often before been discussed here and always with agreement by all, that the expense of maintaining farm fences is a serious tax which should, in a great measure, be avoided. It has been estimated by competent authority that the fences in this State cost more than all the farm buildings in the State. Whoever gives the subject a little study will see that there is the appearance of truth in the statement. In one of the discussions Mr. Geo. S. McCann brought the fact to show that in a period of twenty years his fences had cost something like twenty thousand dollars. At a recent meeting it was shown that a farm of one hundred and sixty acres, fenced into fields of moderate size, would, for the purpose of construction and maintenance of the fences, require an annual outlay sufficient to hire the labor of one man during all the working season. A square field of ten acres requires one hundred and sixty rods of fence to surround it, and I assume that on an average this cannot be built for less than two dollars a rod, or three hundred and twenty dollars in all. If of stone or rails it would cost much more, but with ordinary posts and boards, at the cost I have named, there would soon come necessity for repairs, and at the end of ten years, counting first cost, interest and repairs, the whole will be double the original cost, and with such material as we generally use the fence will be so far decayed as to be worthless, or nearly so, and the whole must be repeated, if the fence is to be maintained. Now let us ask why we should do this? By what principle of law or equity should we be required to pay so much to guard against the depredations of trespassers? So far as the law is concerned we are not required to build fences along the highways. Sometimes men say it is very shabby to leave fields unprotected from damage by cattle passing along the roads. Is it not the proper business of the owners of such cattle to see that they do no damage in passing? It is certainly a heavy tax upon us to fence against them. Once let it be understood that persons driving cattle along highways must keep them under proper restraint, or pay damages, and this matter would cease to trouble us.

We were told here a few weeks ago, while soiling was considered, that large districts of country in Europe, of which the speaker gave us the story of his personal observations, were entirely destitute of fences, except such as each farmer might chance to make for his personal convenience. There are in this State whole townships in which the road fences have been removed, and no trouble is reported as growing out of the practice of such a course. The truth is, this matter of fences needs revision. We are tied to old and unprofitable practices. We tax ourselves heavily to maintain fences for which we have no real need. If we settle firmly upon the principle that every farmer is responsible for the damage which his cattle may do his neighbor, there will be no need of a law requiring line fences, and that principle is in such exact accord with strict justice that no man could complain of its operations. I agree with Mr. Seaman that it is proper to memorialize our legislatures on this matter, that even these line fences may or may not be built, as the convenience and interest of the parties may decide.

Mr. G. S. McCANN.—I agree with the sentiments expressed, but I think that the law is good enough as it stands. Let every man take care of his own stock and we would have but little need of fences, except such as our own convenience might require.

Before selling off a part of my farm I had eleven miles of fences, which cost, as I estimated it, five thousand dollars. Computing the interest on this and compounding it, I found that in twenty-one years it would amount to twenty thousand dollars, and the fence would then be all gone. If we could only dispense with road fences it would be a great relief, but with the loose public morals we can hardly protect our crops from them even by good fences. We are harassed more by these street cattle than by all our own. Of course we should not be required to pay so heavy a tax to their depredations. Perhaps if we should take away the fences and use the protection the law gives us it would do away with this trouble and lighten our costs.

President HOFFMAN.—The Secretary, I think, overstates the cost of fences. For a rod of board fence two posts are needed, which, at twelve cents each, would be twenty-four cents; thirty-two feet of boards, at fifteen dollars per thousand, forty-eight cents, five cents for driving the posts and five more for putting on the boards, which would make eighty-two cents.

W. A. ARMSTRONG.—I do not accept the estimates; they are incomplete. The posts, if good and suitable are certainly worth more, and then as to driving it is a well known fact that all over the hill lands of this county, driven posts will not stand. Holes must be dug deep enough to reach below the frost, and this will cost often as much as twelve or fifteen cents to each post, and in this estimate there is not enough lumber and no provision at all for nails.

Mr. JAMES McCANN. I can buy all the good white oak posts I want for ten cents each and the hemlock boards for ten dollars per thousand, and there is no difficulty in having the fence built for twelve and half cents per rod. Of course it is fair to take actual costs as the basis of our estimates.

Mr. S. P. CHAPMAN. I have a great number of second growth chesnut posts which I will sell on the ground, for ten cents each, or delivered for twelve and a half cents.

M. H. THURSTON. Having just completed a long line of fence I must say I could not do it as cheaply as these gentlemen say. More boards were needed than the President has estimated as necessary, and I could not buy stuff as low as the prices I hear spoken of now.

W. A. ARMSTRONG. It is hardly necessary to talk of the cost, but I must again say what every speaker knows to be true, that driven posts will not stand in our clay uplands. As well stand them on the ground for the frost will certainly lift them out. It is only on these gravelly plains that driving posts can be considered good practice. Of course then these speakers should not assume to measure cost by their method, which

is inadmissible in nine-tenths of the arms of this county.

But this is not the real question. All admit that at the cheapest, fences are very expensive. The matter to consider—why do we have them? I have attempted to show that we submit to this expenditure mainly to protect ourselves against the damages which come from cattle in which we have no interest, and therefore against which we should not be required to erect barriers at any cost, no matter how small. The principle is sound. When we enforce it, a vast amount of capital will be released and may be profitably used in real farm improvements which will yield substantial profits. Even the release of the land occupied by the fences is a matter of great importance, and when we can by proper and wholesome public sentiment in this matter be exempted from the requirements to keep up fences, which is only upheld by habit, we have lifted from us a tax sufficient in itself to depress our agriculture.

President HOFFMAN. In my judgment the time has not yet come in which we may wisely dispense with our fences. Not until we adopt soiling can we expect to be relieved of the burden; but we are moving in that direction. We need not go to the Legislature in this matter. I ought to build one-half of the fence between my neighbor and myself. I think you will agree with me that we should have line fences, and having them it will be convenient to have division fences. Of course they are expensive, but with our methods they are still necessary. The law regarding highways gives us ample protection, if we choose to use it, against the depredations of street cattle, and shall probably depend still farther upon it as the fences decay, although I am aware that it will subject me to the charge of meanness, from those persons who have profited by appropriating the street pasture, to which they never had a just claim. Let us move slowly but right. When we get to soiling we shall be able to enjoy the advantages pointed out by those who advocate entire exemption from fences only as we may want them.

J. S. VAN DUZER—I hope we shall not be confined to the question of cost. There is no doubt in my mind that we lose a great deal by too small fields, which besides interfering with ordinary operations of the farm require great cost to maintain them. About eleven years ago my father bought a farm in Veteran which was cut up in little fields, most of the fences being very poor. We took the material from the interior fences and used such as was good in making good line fences, and such other fences as seemed to be needed, having plenty enough and to spare. For this use there has been so far a full supply, but there is not one-fourth the number of fields to keep fenced thus lessening the requirement very much and bringing no inconvenience with the larger fields. I would not be induced now to accept the smaller fields if new fences could be put about them without cost. In this way, by larger fields, much of the great tax required to fence our lands may be avoided without any injury to our farm management.

G. S. McCANN—I have had some experience with the gate fence, and I like it very much. It is cheap, easily made and handy. It permits teams to enter anywhere, and when frost lifts the posts they are easily driven in again without damage to the panels. Each length hangs on hooks driven into the posts, so that any one can be taken off without interfering with the others.

President HOFFMAN—Good will grow out of the larger fields recommended by Mr. Van Duzer. It leads to the exclusion of cattle from the meadows, for these larger fields will be occupied by wheat, or oats, or corn, with meadow in the same enclosure, and while these grain crops are on of course no cattle will be admitted. The meadows will thus have increased protection. In my judgment it is better to have large fields for pasture too, because the cattle graze more contentedly. I know this is not in accordance with old notions, but it accords with my observation.

Mr. BRIDGMAN—I think, with my cow changing from field to field, as the pastures get old, there has been a tendency to make



unruly animals. I have changed about too much. We are all in the habit of making too small fields. But I cannot see that we are yet prepared to do without fences. No doubt we shall begin soiling before long, we shall be driven to it, and then we can abandon our fences, except such as we need to yard the cattle.

President HOFFMAN—Will your cows do as well when changed to new pastures frequently as when confined to the field large enough to feed through the summer? This changing makes them uneasy.

Mr. BRIDGMAN—I think it does. When they eat off the freshest of the pasture they begin to look over the fences, and if they see feed which looks better they try to get to it, and if there is one unruly animal in the herd all will soon break through. I have one cow which I bought and she proved troublesome about the fences. Nothing on my farm can stop her. In two minutes she can go through the best board fence. She brings disquiet in the whole herd and that is hurtful to the products and also engenders bad habits.

JAMES McCANN—Whether large fields are desirable or not depends very much on what are the uses to which the farm is put. For grain or mixed farming I think large fields would not be desirable. They would cause the farm to be used to great disadvantage. As, for instance, if wheat were on a portion, the remainder could not be pastured in the fall when the wheat is young. And if the preparation be a summer fallow, and corn or other grain crops, or even meadow, be on the portion not fallowed, the pasture of the fallowed ground is lost.

President HOFFMAN—What pasture would you expect on a summer fallow?

Mr. McCANN—If not plowed until June, which is the usual time, there should be a great deal.

President HOFFMAN—Would it be worth the fence to separate, above its manurial value to the fallowed land.

Mr. McCANN—Well, I can't say how much it would be worth, but I feel very confident

that a hundred acre farm divided into four fields of twenty-five acres each, would not be so good for all purposes as if made into much smaller fields. As to pasture, I would rather keep cattle in a field large enough to feed them through the season. If the pasture be kept abundant the cattle will do better than by frequent changes.

Mr. VANDUSER—This idea about separating crops by fences is wrong. One may have wheat, corn, and barley, and grass within the same enclosure just as well as when divided by fences, and there is really no trouble in it. I have a field of fifty acres in which I have passed a regular rotation of corn, barley and wheat, using parts of the field separately for each.

An important matter to consider in arranging the fields is to get in one enclosure land of as nearly uniform character as possible, because all will be subjected to the same treatment. Thus dry, tillable lands to any extent desired may be enclosed in one field, but it would not be well to have a large enclosure of land one-half of which would be fit to plow and the other half wet meadow or pasture land. So far as summer fallowed lands are concerned, the pasture they afford, if properly treated, is not worth considering. They want to be kept bare. Whatever weeds or grass appear should be destroyed by cultivation.

Speaking of this bare fallow in large fields I am reminded of an experience in the field of which I have spoken. In 1869 I planted about eight and a half acres to corn, the ground being rather wet in character and the spring backward, by which planting was made late. Then there came a wet time so that the corn could not be cultivated, and before it was dry enough the Canada thistles were up so high that a horse could not be driven between the rows. Of course I got no corn. The next year I plowed the piece and kept it a naked fallow all the season until time to sow the wheat. There was no spot where the thistle troubled about binding the crop, and I had the excellent yield of three hundred and fifty bushels, and the catch of grass seed was also excellent.

Mr. McCANN. I had a piece infested with

thistles. Two years ago it was in meadow but badly run out by thistles and other weeds, so I plowed it and sowed buckwheat. The thistles came up promptly, making the field green and of course interfering with the growth of buckwheat. The next season I plowed the piece three times and cultivated it twice, keeping all green growth checked. At the proper time I sowed wheat and there was not a thistle to be seen with the crop at harvest.

I had also an experience on this field with air slaked lime. I put eighty bushels on less than an acre before sowing. After the lime came the dragging, and then the drilling. I never saw the least effect of that lime in the wheat crop nor in the grass which followed.

President HOFFMAN.—Did you sow any part of that field with timothy alone?

Mr. McCANN.—Yes, two pieces, of about three-fourths of an acre each, and I could not discern any better growth than where it was sown with wheat. It took well on all the field where sowed in the fall, although it was late, and when sowed in the spring it was good.

Mr. BRIDGMAN.—Take one season with another, is it safe to sow timothy with wheat in the fall? I never sowed so but once and then my judgment said it would damage the wheat. There was a strip on one side sowed in this way and the remainder sowed in the spring. The result was as I feared—on that strip the wheat was choked out.

Mr. McCANN.—It is not a safe way for the wheat, but it is very safe for the timothy.—It is so sure to catch and do well when sown in the fall on wheat that I am willing to take some chance.

President HOFFMAN.—My practice is to wait a few days after the sowing of the wheat before putting on timothy seed. By this means its growth is so retarded that the injury by crowding the wheat is generally avoided.

Farmers from Southport, Ashland, Horseheads and Big Flats, as well as Elmira, gathered in at the appointed hour, filling the hall with interested members and visitors, many of whom were of the highest rank in their profession. The subject selected for consideration was the stabling of cattle with such eminent farmers as Willis D. Sayre and Levi Marshall of Horseheads, Wm. S. Carpenter of Big Flats, James McCann, George S. Hoffman and John Bridgman of Elmira, all of whom have attained remarkable success in the management of cattle, to deliver opinions, besides such men as Alpha D. Griswold of Southport, Hiram Ketchum of Ashland, Jonas S. VanDuzer and D. C. Curtis of Horseheads, and James F. Beecher, George McCann and many others of Elmira, to promote interest by sharp questions. The subject is always of fresh interest to farmers at this season of the year, and especially in this locality, where hay and all other feed rules high, making the business of feeding precarious at the best, and with any thing short of the best management certainly unprofitable.

President HOFFMAN opened the way for debate by a few general remarks on the necessity for reaching the best practices in this important branch of farm economy, and in closing, expressed the desire that eminent feeders present would make full statements of practice and be free also with suggestions.

J. S. VAN DUZER—While there are so many here well qualified to instruct ordinary farmers on this matter of stabling cattle, it is certain that this meeting will be a profitable one, even if they do no more than to relate experiences, which, with them, have run through a long course of years in the handling of all the common classes of cattle. I regard it as very fortunate for us that Mr. Willis B. Sayre, who has been specially invited to meet us, is present. A brief statement of experiences and observations in the matter of stables and their ventilation, recently published in the *Husbandman*, related to his management, and as I am informed is pronounced by him quite correct. We

have now the opportunity to call out more, and I hope he may be called at once because his suggestions will assuredly stimulate discussion.

Mr. SAYRE.—I have read the reports of your discussions for years, with both pleasure and profit, and I am herenow, rather for the desire of more information than to address you. But willing to contribute such ideas as I have gathered by years of observation in the feeding and management of cattle, I shall claim your attention for a few minutes.

The point which I desire to see more plainly is, what is the difference in the cost of keeping cattle in a good and growing condition in well constructed and properly ventilated stables, or in the barn yard and field with fair shed protection?

I have had some experience, but it has not been entirely satisfactory. I have, however, been led to believe by such experience that there is a marked difference in the amount of hay consumed in these respective conditions, and that there is decided economy in stabling, the wisdom of which depends upon the care in feeding and management, and the proper ventilation of the stable, and upon the protection from winter winds, when the animals are turned out for water or for exercise. I deem it important that the stable should be so ventilated that the air within shall be at all times as nearly pure as possible as compared with the outer air. And it is hardly of less importance that the cold air should be let in for ventilation in such a manner that it shall not flow directly upon the cattle. To avoid the evil effects of cold currents of air in direct contact, provision should be made to let in the outer air through openings as far above the backs of the cattle as possible.

My early experience led me to doubt the wisdom of stabling cattle when feeding, with the objects of improvement and increase of growth. I think it was because I overlooked the necessity for sufficient and properly located ventilation as well as the necessary protection to the cattle from the cold winds while in the yards.

Mr. VAN DUZER.—Permit me to interrupt. Why would you protect the cattle when turned out?

Mr. SAYRE.—In very cold or windy days there is too much contrast between the full protection of the stables and complete exposure without. I deem it very necessary to provide partial protection to avoid the shock which comes from such contrast.

But to return to the ventilation. There is necessity that it should be regulated according to circumstances. Openings very well suited for use to-day may not be what will be suited for use to-morrow. Even in the coldest weather I find it better to let in the outer air, but I have such provisions that the wind will not drive directly on the cattle. The windows are located as high as they can be placed, and are about twenty inches square. Now when a north wind is blowing I open the south windows and keep the north windows closed—and so when a south wind prevails I change the order to suit.

The information I seek is in regard to the difference in the amount of hay required to keep a given number of cattle of the same class and character, taking account also of their weight, in doors and out; keeping all in both cases alike improving. My experience and observation in practical tests made with a view to the solution of this problem has been confined to two experiments not sufficiently accurate to satisfy my mind as to the precise difference in cost, although in general results very conclusive so far as these tests were carried. The first was with sixteen steers weighing from ten and a half to eleven hundred pounds each. For fifteen days when stabled the daily consumption of hay by each animal was eighteen and a half pounds, and besides each steer had a daily feed of two pounds of meal. During this time all were evidently improving. This was in the last half of April.

In another year I fed twenty-five cows in the yard and field during the entire month of April and found the daily requirement of each cow was twenty-two pounds of hay with no grain. The hay was carefully weighed and fed either in clean places in the yard or on the sod of the adjoining field of two acres, and all litter was kept cleaned up

every day, so there was seemingly no waste of hay. I may add, these cows plainly exhibited improvement during the thirty days.

These experiments were not entirely satisfactory because one was with steers fed for growth, and the other with cows, and in the one case there was a feed of grain, while in the other there was not. I settled only the amount of feed required in each case, but there is the question left: Did those steers eat any less hay because of the two pounds of meal fed to each every day?

My conclusions after some years of what may be called careful observations are, that taking account of the actual requirements for food and the inevitable waste in out of door feeding, the difference in favor of properly constructed and well ventilated stables in the saving they make possible in food, is fully one-fourth, and that in such stables the better comfort and thrift of the animals is attainable.

Mr. VAN DUZER.—How often did you feed?

Mr. SAYRE.—Twice a day. In the morning as much as the cattle would consume and adding to the feed as they seemed to require, and after having fed full nothing more given until the evening feed when they were again given all they would eat.

Mr. VAN DUZER.—Do you use stanchions to confine the animals to the stable?

Mr. SAYRE.—Both stanchions and gates. The latter are not admissible for cows in milk, because they can slip forward and back too much for convenience, but for some steers reluctant to enter the stanchions, that would enter the gates cheerfully. This I have accounted for on the supposition that in the stanchions these steers have been overawed by the demonstrations of those standing near, but in the gates there is complete isolation and therefore no steer has fear of his neighbor.

Mr. VAN DUZER.—Did you never make a comparative test between in door and out door feeding?

Mr. SAYRE.—Years ago I had twenty-one steers of as nearly uniform character as I

could select, and I put twelve of them in the stable, leaving nine to run in the yard, with sheds for protection. The nine were fed from racks with the bars so close that they had to pull out fodder by their tongues. By this means I expected them to feed more slowly and to waste less of their feed. Of course they could get enough, but it required a longer time than if they could thrust their noses in. When the weather was very bad I spread hay on clean places so that they could feed more quickly. There was no accurate weighing to decide how much more hay they required than those fed in the stables, yet it was evident that each animal consumed more than any one in doors.

President HOFFMAN.—Did your observations lead to a comparison of the growth of the two lots?

Mr. SAYRE.—Yes. I had an old friend who watched the experiment with me. At first he thought that the out-of-door lot was more thrifty, an opinion which I shared. Later it was a matter of doubt and after some weeks we agreed that the stabled steers were making the better growth. We concluded, also that the nine head out-of-doors consumed as much as the twelve head in the stable.

Mr. VAN DUZER.—Why do you feed but twice a day?

Mr. SAYRE.—Because when the cattle are fed full in the morning they have no need during the day and being deprived of hay for that time causes them to return to their feed with good appetites, when their evening supply is offered.

Mr. VAN DUZER.—Then it seems to be your object to induce them to eat as much as possible.

Mr. SAYRE.—Certainly. We do not want to just keep our cattle, we want them to eat for another purpose, to improve. I am convinced that in the experiment in which I gave a daily feed of two pounds of meal, the steers eat none the less hay, on the contrary I think they eat more, because the meal gave increased vigor, and therefore increased appetite.

Mr. W. S. CARPENTER.—You couldn't carry that far.

Mr. SAYRE.—No. Large feeds of meal would diminish the requirement for hay, but if I want to induce my cattle to eat all the hay they can, I think such a small grain feed secures the desired result.

Mr. CARPENTER.—This is a subject in which we all feel great interest. I have been turning it over in my mind for the last ten years, and I do not yet feel decided whether stables are better for steers than good yards with open sheds. Sometimes I have thought that I would build stables in which to keep the stock closely confined, and at other times I thought it would be waste. Let me say right here that no man need expect to succeed in feeding cattle simply by following Mr. Sayre's instruction—at least to succeed as he does. It would be necessary, with or without stables, to do as he does. He is the best feeder in this section of the State, certainly the best in this county. Possibly Charles Balcom, in Steuben, is his equal, but let no man start off and attain their success, for he will be disappointed. He will not grasp the true idea of management as they do. I have come to the conclusion that not all men of equal talent can succeed alike in the same business. Some men, with fine ability, fail where others, not supposed to be their superiors, succeed.

As for myself, I could never succeed in getting my steers to eat heavy in the stable, and I may say my father met the same difficulty. I have taken hay out from the bunks after the steers had persistently refused to touch it on the ground, when the same steers in fifteen minutes after being turned out, would eat it with fine relish. It is in my mind an open question, if steers will not do better out than in, especially in the spring, when the temperature is growing milder. Certainly in my experience, they have eaten better. I have one bunk in my yard from which I could never induce the steers to eat hay, and yet from this bunk the hay has been carried out to the open ground and there eaten greedily.

I fully concur in the opinion expressed by Mr. Sayre that stabled cattle need protec-

tion when turned out, and I have no doubt that good sheds are very necessary to the successful feeding of any class of cattle, and I am also satisfied that the cost of construction of such sheds is greater than the cost of stables. The advantage is the greater ease and freedom enjoyed by the cattle, and the less liability to sudden changes, as in the case of cattle kept in warm stables and turned into the blast to get their drink or for exercise. In such cases protection is very necessary, but when steers are fed in the open air they do not seem to mind the cold.

I am speaking of steers and not of cows. With them the same rules might not apply. Steers have greater vitality. Cows usually enter the winter in low condition, having been milked down, while steers go in with full vigor. I have seen them in full flesh, and with full bellies go out from their feed and, from choice, select an open place where the wind would be a piercing gale and turning tails to it contentedly chew their cuds as if nothing were left to be desired. I have no doubt that such stock can be carried through the winter with less consumption of fodder by the use of stables, but will there be the same general thrift and robust vitality? It takes feed to resist the chilling and weakening effect of the low temperature in our winters. And it needs good full flesh as well. Poor animals should have the protection of stables without doubt, so I am not surprised to see dairymen provide such accommodations for their cows, but I am not yet fully convinced that it is better for steers kept for growth and flesh to be penned up in stables, although I freely admit the great success attained by Mr. Sayre.

Mr. SAYRE.—Perhaps I can hint at the reason why Mr. Carpenter's steers refused to eat hay in his sheds. If they are reasonably intelligent they must feel indignant that with his great sheltered space, he has not provided them comfortable stables in which they could have pure air and eat their fodder without fear, having also protection from the blasts which they are so well able to resist, because at great expense of feed he has put so much flesh upon them.

Mr. LEVI MARSHALL—I consider myself

young in the business of keeping cattle, although I have been twenty years engaged in it. My father-in-law was an Englishman and he was a more skillful feeder of cows than I am, although I keep my cows in good stables and he did not. He managed to keep them fat in the open yard without any shelter. All day long he would be engaged in foddering, little lots of hay scattered here and there, keeping them constantly tempted until about four o'clock in the evening when he would give enough to last all night. They would then eat full and lie down anywhere contentedly. Even when he took poor cows in the fall to begin feeding he would fetch them out fat in the spring. When I feed in the open yard, as I have to do sometimes when I have a few cows too many, there is great waste by the stronger robbing the weaker animals. Yet I like the idea of the freedom afforded by an open range. If I had but four or five cows I think I should keep them loose, but with a large herd the plan is inadmissible.

Mr. JAMES McCANN—I have had considerable experience in keeping steers and I have usually managed to give them freedom at night, using the stables principally for feeding. It has been my impression that they would do better out than in, except of course in very bad weather. I have noticed that heavy steers turned out from the stanchions, after they had been kept in too long, would go into the yard and lie down, even before going to drink, and this has seemed to indicate that they wanted rest. The yard should be in good order and well littered with straw. Steers well fed and in good flesh do not seem to be affected by cold.

Mr. VAN DUZER—Can you give a reason why Mr. Carpenter's steers will not eat in the stable?

Mr. McCANN—I can not. I have had no trouble in getting animals to eat. My preference for the yard is because of the greater freedom afforded. In bad weather I have often kept them in the stanchions feeding well, but without that quiet rest which I fancied they should have.

Mr. MARSHALL—I suppose there is a bad

odor about Mr. Carpenter's stables which causes his steers to refuse their feed. He has told us that the same feed when taken out was eaten. The shaking up and airing has made it palatable.

Mr. SAYRE—My impression is that when we put up cattle for the first they do not eat enough for three or four days, or until they become used to confinement. The stabling must be pursued steadily and not one day in and another day out. Get them accustomed to the situation.

Mr. VAN DUZER—Did you ever attempt to winter your cattle on corn stalks?

Mr. SAYRE—Yes, and with very good success for the first time in which they were fed. But I would not feed the stalks alone. My plan was to give one feed of the stalks, as much as the cattle will eat, and make the next feed of hay.

Mr. GEORGE S. McCANN—Will it pay to cut the stalks?

Mr. SAYRE—Most certainly. I resorted to that because I found there was benefit in giving so much of preparation. They need also to be slightly moistened, because when very dry the cattle do not seem to relish them.

Mr. VAN DUZER—If you dampen them will they not ferment?

Mr. SAYRE—They would, no doubt, if left long enough, but we never cut more than three or four day's supply and have had no trouble; neither from this cause nor from freezing.

Mr. VAN DUZER—How much more grain do you have to feed with corn stalks than with hay?

Mr. SAYRE—As I have said I never feed corn stalks exclusively. As I use them I do not increase the grain feed. I find that the only time to feed corn stalks profitably or rather induce the cattle to eat them well is when there is snow on the ground, perhaps because this aids in supplying the requisite moisture.

Mr. VAN DUZER—When cut, what propor-

tion of the stalks is rejected as compared with the uncut?

Mr. SAYRE.—About the same.

Mr. CARPENTER—I saw in Mr. Charles Balcom's yard once a wagon with a great box on it, in which he drew the cut stalks, and there was a pair of oxen licking off the stalks while there was plenty of good hay within ten feet. I asked if there was any meal on them and was answered "no." Mr. Balcom added, "give them all the cut stalks they want and they will want no hay."

The very best judge of cattle I ever knew was Judge Balcom, and he was also an excellent feeder. He told me that when he tried a part of his cattle in the stable and a part out the latter did the better.

Mr. SAYRE—That would depend very much upon the provision made for stabling and upon the condition of the yard. With good sheds and plenty of straw, no doubt great comfort can be secured in the yard. But can we depend on the supply of straw?

Mr. CARPENTER—Straw is a great deal better to lie on than to eat.

President HOFFMAN—Suppose we do not have it?

Mr. CARPENTER.—I buy it for my cattle as I have to-day for they must have it.

Mr. BRIDGMAN.—My experience in the winter keeping of cattle has been mostly with cows kept in the stable. Twenty years ago my father kept cattle without much protection from the weather, usually in the open yard with but a stack of straw to give shelter and feed given all out of doors. My observation then led me to begin preparation for stabling, and ever since my plans were projected and executed, my cows have been stabled in winter without any ill effects that I have noticed.

I hear of steers going out of the stanchions to lie down in the yard for rest. It appears to me there is no argument in that, for I have cows that will go into the stanchions apparently with the same motive.

There is one in particular that invariably lies down very soon after she enters, so that even in summer we have to hasten to milk her after she is put up, or she will lie down,

and she gives every sign of enjoyment of the situation. Often when I go out at night I find all lying down chewing their cuds as contentedly as if they were loose, and without doubt in the actual enjoyment of more comfort than it would be possible to provide in the yard, unless at great expense for sheds, and for straw with which to litter them. But there is necessity for bedding in the stables as well as in the yard.

There is a common mistake in building the stanchions, by which the cattle have to lie with their heads elevated. The bottom rail which holds the upright pieces in place should be as narrow as possible, so that their heads may go down to the level, with nothing to choke or push against the neck. When so made cows will lie in all positions, sprawl on their sides or curled as naturally as when having absolute freedom out of doors.

As to the feed, I am satisfied that it does not require more than two-thirds the feed in the stable that it does out, to keep cattle in either situation in good, vigorous and thrifty condition. I agree with others here that when they are turned out there is no need of shed protection, for, without doubt, there is greater sensitiveness in the stabled cattle, and they are more easily affected by cold. My practice is to shut the cows up again after very brief exercise when the weather is bad, but in good days to give them a longer run, sometimes nearly all day.

Mr. S. A. CHAPMAN—Is not that cow which is fond of going in the stanchions to lie down, an underling in the herd?

Mr. BRIDGMAN—No, sir. She is one of the strongest cows in the yard.

Mr. MARSHALL—I, too, have cows that seem to seek the stanchions to lie down, particularly one that leaks her milk; we have to attend to the milking as soon as she is in or she will lie down.

President HOFFMAN—I suppose it is about thirty years since the first stanchions were built in this county by Col. Foster a pioneer in many improvements. He used to buy steers in the fall of the neighboring farmers with the purpose of feeding for growth.—When it became known that he intended to confine them in stanchions, it was freely

predicted that he would meet great loss.—Neighbors said "they would get stiff and die." But after a winter's keeping these steers sold for double their cost in the fall. In fact Col. Foster made money by such wintering. So others were encouraged to have stanchions, and so far as I know, those who began stabling in any way did not abandon it.

But it must be borne in mind that stables will not winter cattle. It requires feed and care besides. I may say to Mr. Marshall that if he will bestow upon his cows the same care that his father-in-law did, they will reward it as they did his care. We are told that he fed all day, that is he spent the whole day among his cattle looking after their comfort and necessities. Let any man of good intelligence do that and his cattle will thrive with or without stables.

My experience has been had mostly within the last fifteen years, and almost exclusively with cows, and in that time I have had many that have taken on flesh so that in the spring they have been what Mr. Sayre or Mr. Carpenter would term fine beef, almost first-class, although they continued to give milk. I have sold such right from the stable for ninety, eighty, and down to fifty dollars, according to weight and condition.

It is my theory that the substances which go to make milk, make also flesh. Now these cows, liberally fed to make milk, produced something more, because they could not convert into milk all that their vigorous appetites induced them to consume. But if they were turned into the yard to run through a few cold days, there would have been a shrinking of the milk, even with the feed kept up to the amount consumed in the stable. Such has been my observation. I think then there would not be as good growth in flesh. When a man cannot work comfortably about the yard without having his coat tightly buttoned, it is too cold for the cows. The man needs the full protection of his clothing and the cow needs such protection as the stable affords. It is true that very fat cattle can better resist cold, and it may possibly be true that such very fat animals are made uncomfortable by the restraint of the stable, they may get so fat that they need

more ventilation, but there is little reason to fear any suffering from this cause with the most of our stock. With clean and well ventilated stables cows seem to have but the other natural wants, care, feed and drink. With such experience as I have had I cannot doubt that there is decided advantage in stabling.

The discussion was continued much beyond the usual hour, and even after the adjournment farmers gathered in groups about the hall and continued the interchange of ideas until nearly midnight. The next meeting will consider "The propriety of feeding different kinds and classes of stock together."

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SATURDAY EVENING, Dec. 26, 1874,

This meeting, the last of the year, fell upon a beautiful moonlight night, with so clear and crisp an air that riding or walking was delightful exhilaration. For this reason, as well as for the interest in the discussion, the attendance was full. There was Carpenter of Big Flats, who delighted the Club by his presence, which cost him, coming and going, twenty miles of travel. Col. Hoffman of Horseheads, A. D. Griswold of Southport, W. K. Vaughn and several others of Big Flats, and from the city Major Hotchkiss, who is almost a regular visitor. Robert Neilson of N. C. Railway, John S. and Joseph Hoffman, Jesse Owen, and a score of others who attend at irregular intervals, as well as the old members, such as the McCanns, Chapmans, Carrs, Billings, Carpenters, and so on through the list.

The happy anniversary meeting of Wednesday night, at which there were gathered over four hundred members and guests, might well have formed the theme for an hour's talk, but no allusion was made to the happy meeting. It left only pleasant, even delightful impressions on all. There was no need of talk—nothing to settle, nothing to arrange, nor to compromise.

The first regular business was the reading of letters, only one of which had public interest. It is given in full except address and signature.

"I read the reports of your meetings and take a great deal of interest in them. I should like to ask your Club a few questions:



1st. What is the best mode of churning, working and packing butter?

2d. What is the best management of house help?

3d. How can we make home more attractive so it would be a pleasure for husbands to stay at home evenings?

Mrs. E. B. S., Chemung.'

President HOFFMAN said: "It will be well to consider these very proper questions in their order, taking first that which relates to butter making." Looking over the members to find a capable respondent, he fixed upon Col. Hoffman, the largest maker of butter in Southern New York and perhaps in the State, of whom he requested answer. With evident reluctance and sententious brevity Col. Hoffman said: "I should hate to stand here to instruct butter makers in Chemung. I don't assume to be able. They will get better instructions at home than in Horseheads. I know no methods superior to those used in the town of Chemung or I may say throughout the county of Chemung, whether all the milk be churned or only the cream. And I know of no better way to get the butter than by the old-fashioned churn."

Observing the necessity of drawing out the witness, the President asked: "Do you comment the old dash churn as the best?"

Col. HOFFMAN—I never tried any other. There are many offered with great promise but I prefer to let other butter makers prove them.

President HOFFMAN—Can you recommend any machine for working which is applicable to small dairies?

Col. HOFFMAN—I hardly know what would be called small dairies, but if to say ten cows, there are several kinds in use which perform the work well, and effect a considerable saving in labor over the ladle and hand working, although a skillful worker will do as well with the ladle as by any machine so far as excellence of work is concerned. But it is very laborious and slow. The machines which I like best are those which come the nearest to hard working. Among these are several which have inclined planes, on which the churning is placed and the buttermilk worked out by simple pressure or by fluted rolls passing over the mass, the buttermilk

when released passes down the inclined plane into a receptacle place on the floor to receive it. These machines make the work more easy and rapid and are better than unskilled hands.

President HOFFMAN—Your reference to unskilled hands would seem to leave the inference that such might damage the butter.

Col. HOFFMAN—Yes there is a great deal of butter hurting in the working. It is done by a sliding motion of the ladle. Dealers say it breaks the grain. It really makes the butter sticky. It gives it a resemblance to lard. There are only two purposes in working butter—to free it from buttermilk and to effect uniform salting. The least work with which these objects can be accomplished is the best.

President HOFFMAN—Have you nothing to say about the packing with reference to long keeping?

Col. HOFFMAN—I have only tried the ordinary oaken packages for the butter which is designed for keeping. The most of mine is sent to market in return pails which are used again as often as necessary.

A. D. GREISWOLD—I noticed at the Rochester State Fair, firkins that were headed up and provision made for filling in brine at the bung. It seemed to me a handy way. The usual plan is to have the heads out and the keep covered with brine until the butter is in market.

Col. HOFFMAN—I had the firkins at the Fair which he describes. All there was of it was the pouring in brine through an opening provided for that purpose after the firkins were headed, instead of the ordinary open package with cloth and salt brine. About five years ago I thought of this as an easy way of keeping, and submitted several firkins to the test. I found that such heavy dealers as J. S. Martin, and Hunter & Adams of New York, approved of the plan, and even regarded it as the best for packages that were to be kept long, because they could be placed in the cellar and the brine filled in as often as it leaked away, keeping as well there as in our cellars. In packing for this way of keeping it is necessary to take exact weight before the brine is poured

in and to keep the record. Taking out the weight of empty package and the usual soakage there is the net butter without regard to the weight of brine.

Mr. G. S. McCANN—What salt do you use?

Col. HOFFMAN—Ashton. Not because it is better than Syracuse salt, but because butter salted with it sells better. I never could see that it was any way superior, except, perhaps, that it dissolves more readily. There is fashion in these things and of course there is more or less of prejudice. I have used Syracuse salt and found it an excellent dairy salt, so far as I could test it in comparison with Ashton.

President HOFFMAN—The butter question seems to have been answered as fully as the members present are now inclined to speak. Let us take up the matter of "house help."

Some remarks more facetious than instructive were made in several parts of the hall. A droll effort was made to refer the question to a superannuated manager, but the effervescence of fun being passed G. S. McCann said:

"This is a question of real importance which has a direct bearing upon nearly all farm homes. My idea is that good wages should be given and the girls treated as nearly like the other members of the family as the circumstances will permit."

President HOFFMAN—And I will add that for good wages and for good treatment it is well to exact good service.

Mr. G. S. McCANN—Yes, that is right. But it must be remembered that there are hundreds who have no appreciation of good treatment. There is always obligations on both sides and there is failure often to meet it. Good service deserves better consideration than poor, and is very likely to find it.

The question how to make home attractive so that husbands should not stay out late at night coming up, the suggestion was made that good husbands who rarely visit the Club or any other evening entertainment, conspicuous examples being named, should furnish the solution. But all such chose to preserve their secret, leaving directions to those who are sometimes out o' nights.

S. M. CARR—The query is worthy of full

consideration. It would be well for any woman who asks it to propound to herself first the question: "Am I always in the proper frame of mind to receive my husband with such a cheer as he needs?" She who meets the tired worker on his return from labor or the cares of business, with fretting and frowns, cannot expect to entice his stay, if there is a place near where he can escape into more genial society. He needs sympathy and support. On the other hand he may be too coarse and unfeeling to appreciate the fact that something of the air of home depends on his manners. The whole matter is one which requires thought—careful thought by which the causes of wrong may be discovered; and then the spirit of determined good will by which the evil shall be overcome.

Mr. S. HOTCHKIN—These observations, so far as they extend, are all just and true. The question seemed to excite mirth in the minds of some gentlemen, but it is one which should not be treated with levity nor lightness. It is true that in all the accessories of life, whether on the farm or in the shop or in household duties, there is a good deal of abrasion and harrassing care. But, by accommodating condescension on both sides, the worst effects of these can be avoided. There is, in all the affairs of the world, more or less of trouble to be met. Cares are constantly present, whether with the poor or the rich, but they need not rob home of its attractions if there is the resolute will to meet them.

Of course, to make home attractive, it must have adornments and fittings that exhibit taste and a disposition to please. A slovenly home can never be happy, at least with the full measure of happiness. And it is equally true that homes extravagantly fitted beyond the means of the occupants must have perplexities and unhappiness. Adornments may be simple, yet neat, and pleasant. No matter how simple so they add to the attractions of home. To state the whole matter, the house must have its rooms as sunny as bright and as pure as the air out of doors, and all the persons who occupy them must have pure hearts, honest desires, and a purpose to do duty in any station in which they may be placed.

At the last meeting, the discussion being on the stabling of stock, the President had given considerable latitude to the speakers so that feeding came up for remark, and there was also something said of the keeping of different kinds and grades of stock together. The interest manifested then led to the selection of these matters for the present meeting. W. S. Carpenter being the first speaker called because of his long and successful experience in the management of stock, responded by saying tersely: "You don't want many kinds of stock together. That is plain enough, but I can't tell you to what limit you may go. I am not the proper person to give you information on these subjects. I was here at the last meeting and talked more than my share, so I hoped to be excused now; but as you insist on my experience being told, I say that I never owned but one sheep in my life, and I sold that as quick as I could. I am very sure that cattle do not thrive well with sheep, but I have not proved it in my experience. The knowledge comes from observation of the practice of other farmers who have had sheep in the same pasture with their steers or cows, and I have noticed always in the cases which have come before me that when so pastured the cattle were poor. I watched the effect on the cattle, because that came within my business. On the other hand some of the men who pasture their sheep and cattle together say that it is not good for their sheep. They see their profits in sheep, while I try to find profits in cattle. I would not keep horses and cattle together, for although I don't know but they would do well enough in good pasture, as far as mere feeding is concerned, I am always afraid that the horses will kill the cattle, but it never troubles me about any danger to the horses. I think different kinds and grades of cattle should be kept in separate pastures whenever it is practicable to do so. I wouldn't have pigs run in with cattle, although from a single experience with two pigs, I am satisfied that as far as they are concerned it was good enough to let them run, but I object on account of the cattle. Those pigs would thrive whether there was enough for the cattle or not."

President HOFFMAN—In his barn-yard,

while he was feeding corn stalks, it is reasonable to suppose that they would, for their fare was something like that described by a German farmer who kept his cattle well, and when asked how he managed to secure so much thrift, said "straw was the only feed, and yet that was not half thrashed." Mr. Carpenter's habit is to leave all soft corn and small nubbins on the stalk. Of course what the pigs get is so much taken from the cattle.

I notice in the reports of agricultural discussions whenever any farmer speaks of feeding cattle he recommends meal. All seem to agree in that, but there all stop. I want to go further. I want to know how much meal, and if some other than corn meal may not be even preferable. I am satisfied that corn meal is very good feed for cows, although it will not materially increase the yield of milk. But, notwithstanding the expressed opinion of the President of the State Dairymen's Association, who says that such feed does not make richer milk than that produced from good grasses, I must say that in my judgment it does. Now while I regard corn meal an excellent feed for cows, I think it may be improved by mixing with it something lighter—as brewer's grains or light brans, whether buckwheat or wheat. For sheep, oil meal and these lighter feeds would certainly be better than corn meal alone. On the whole, while I should like to have considerable corn meal for my cows, I should give preference to oil meal as being the richer feed. It costs more, it is true, but it is worth more. But, with any of these rich feeds, there is need of admixture with the lighter products of grain, or with oats or with all these. I am in favor of diversity of feed for all kinds of stock, whether cattle, horses, sheep or swine. The argument is in favor of variety, as it is in the food of the human family. We feel that we can hardly live on any one kind of food, no matter how good it is. Good health is maintained and promoted by the use of various kinds of food, and the argument has like application, in a lesser degree perhaps, to all our farm stock. Even in pastures every grazier desires as many kinds of good grasses as he can get, because he believes his cattle thrive better with a variety in

their food. Just so with grains, there is great advantage in variety—the cattle doing better, and with a diminished cost.

Mr. CARPENTER.—Members seem to think that I am a feeder, but it is a mistake. I never feed grain in any considerable quantities. I am a grazier and not a feeder. Two quarts of meal daily to a steer is as much as I generally feed, my object being to make growth rather than fat by it. And I agree with the President that the meal is improved as feed when it is lightened by something coarser, like bran or ground oats.

Mr. J. M. BAKER.—My first experience in keeping horses and cattle together is recent. Having small calves of the Alderney breed they were able to crawl under the fences and get in with my horses, which they did, and as a consequence I have one with a broken shoulder. I conclude it is not well to keep calves and horses together.

Having a crop of oats raised after buckwheat the previous season I have now mixed feed by force of circumstances and would like to ask Mr. Carpenter what is the best way to use it. Shall I grind it and feed with hay and such roots as I have? I can use some carrots and I have Swedish turnips which I can chop up for feed.

Mr. CARPENTER.—When you come down to the turnips I have to say I don't know much about them, but the grain is good whether the kinds are separate or together. Take the mixed oats and buckwheat and grind together, and if you want to improve it, put corn meal with it. I should prefer one hundred pounds of feed with one quarter ground oats and three quarters ground corn meal, to one hundred pounds of clean corn meal. I think one-third oats, one-third buckwheat and one-third corn would be preferable as feed to pure corn meal.

As I have told you I have no experience in heavy feeding. I have fed light for many years and long ago I came to set high value on potatoes as feed for cattle. I have chopped up many hundreds of bushels and I conclude with such experience and observation as I have had that a steer will do better on a half bushel of potatoes and four quarts of corn meal daily than on twelve quarts of meal without the potatoes.

President HOFFMAN—I am not afraid to feed turnips to cows and I would take them into the list of kinds of feed whenever I can raise them without too great cost. I should be glad of some to feed this winter. I have fed as many as three thousand bushels in a season and the customers who took the milk knew of it and made no complaint of falling off in quality. Of course milk made from turnips alone would be very poor. And if made from turnips and dry hay I think if drawn to a depth not greater than ten or eleven inches in the pail it would be easy to see the bottom through it. Turnips are good as an appetizer. They are wholesome diet for the animals that eat them; but if given to cows in milk there should be a liberal accompaniment of grain and where so fed I fully believe they improve even the quality of the milk. Potatoes are better—so are carrots possibly and these may be fed in such a way as to injure the milk, for aught I know. It is certain turnips may and as certain that when fed with a proper allowance of grain they do not impart any perceptible flavor to the milk. I should be very glad of twenty-five hundred bushels to feed to fifty cows during the present winter.

I made an experiment once to determine the relative value of potatoes, turnips, carrots and beets as milk-producing feed. I fed eight weeks on these roots with regular allowance of hay and grain, carrying a certain number of cows a given time on each kind of roots. I found one peck of potatoes produced as good results as one bushel of any of the other kinds, and so far as my experiment went there was no difference in the results produced by the turnips, carrots and beets.

Mr. G. S. McCANN.—Would they have been better cooked?

President HOFFMAN—I think they would.

Mr. BAKER.—Last fall, being short of pasture because I was breaking up the field, I fed my cows all the turnip tops they could eat, leaving them in the pasture until it was all plowed. Cows and calves all ran together, making those turnip tops and roots almost the sole living, although I fed some buckwheat bran. For the first three or four

days the milk tasted badly but after that there was nothing objectionable in it. We made butter and sold it without any complaints coming back. I have sometimes thought that the failure to detect the turnip flavor was due to the fact that we got used to it, but then it should have been found by the purchasers of the butter and it was not.

I have fed turnips to beef cattle, making them very fat without grain, although I have usually given carrots a week or two before slaughtering to impart color to the beef. I put two cows in the stable one fall and fed them all the turnips they could eat, finishing on carrots a week or two before I sold them. They grew very fat. One season I put up about forty steers, nearly half being three or four years old. Of these I selected twelve and fed them so as to sell at about the holidays. They made very fat, nice beef.

A solemn gentleman said: "This surprises me because it differs so much from my observation. I knew of a controversy between two neighbors in Pennsylvania on the merits of flat turnips, which they mutually agreed to settle by a test and to make it interesting they laid a wager of one hundred dollars. They took a yoke of cattle as nearly alike as possible; one man tying his ox to the fence and feeding him all the turnips he could eat and nothing else. The other man was to tie his ox up in the same manner and throw snowballs at him and nothing else. At the end of a week of these respective ways of feeding each man was to have his respective ox weighed, and the one which exhibited the greatest gain was to take down the money. The respected man who threw the snow-balls raked down the pile."

MR. BAKER—I have made more money by feeding dry hay and turnips than I could by feeding grain.

COL. HOFFMAN—I would ask the President if in the experiment he made in feeding the different roots he observed a difference in the richness of milk?

PRESIDENT HOFFMAN—My observation did

not extend so far, quantity being the only criterion of the relative values.

There is an argument in favor of diversity of feed in the fact that it permits us to use much that is regarded by many as objectionable, cheapening the cost of keeping without deteriorating the quality of the products. Brewers' grains are regarded as light feed. I first learned of their use for cows in Orange county, where I was informed that care in their uses was necessary, because the sole tendency was to increase the milk, and if fed in too large quantities the cows would milk down poor—would even milk to death. For several years I fed cautiously, but four or five years ago, when I had fifty-four cows, I found I could feed only one ton of hay to each during the winter, so I looked about for a substitute. That was partly obtained by the use of two hundred and sixty-six bushels of brewers' grains every week. In addition to this I fed during the winter, twenty tons of oil meal, about forty tons of buckwheat bran, and half as much of wheat bran. In the fields my cows never did better than during that winter. A part of the time I had a surplus of milk which was churned. Fifty of the cows had dropped their calves in October or later, so that they were comparatively fresh, and yet one of the churnings gave a pound of butter to eight quarts of milk, and none of them required more than ten quarts. With the light feed that I have named I fed fifteen hundred bushels of turnips, and it will be seen that by the butter test the milk was of excellent quality, while in quantity it was much above the average.

MR. HOTCHKIN—Oil meal is a concentrated food and so many tons would take away the appearance of lightness of which the President speaks.

PRESIDENT HOFFMAN—I know oil meal is a very rich food, but the amount I have named was distributed over the whole winter, with a large herd, while all the other kinds of feed were what are commonly called light.

Mr. JAMES McCANN—I have fed turnips to steers, and I regard them as advantageous feed, but not in their fat producing properties. To illustrate, I may say that steers put up in the fall fresh and juicy from their grass feed will not increase in weight by liberal feeds of grain. Six quarts of meal fed to such animals daily up to February will hardly increase weight, although with good hay it will add to growth. I know of a case where a man bought a yoke of cattle which weighed twenty-four hundred when put up in the fall to feed. In February, after having eaten all the time freely of grain, he brought them to my scales, and they only weighed twenty-four hundred. Now if he had fed turnips, or potatoes, or any other such juicy feed instead of all the grain—that is to say giving off part of the grain and substituting the value in roots, the cattle would no doubt have shown an increase in weight and been even better beef. It is well known that cattle fed all winter on grain will not increase more in weight in that time than when turned from such feed to good grass they will gain in two weeks.

Now can any one say if cattle may be fed on corn stalks alone all winter.

Mr. OWEN. I remember hearing my grandfather say that cattle fed long on corn stalks alone would be injured, and even that such feed continued long enough would kill them. They are harsh, and the butts especially, are woody and indigestible.

As to keeping different kinds of cattle herded together I have never had any trouble. We usually have twelve or fifteen calves, and sometimes sheep and colts, all feeding together. No bad results have ever appeared. We have also kept oxen with the cows in winter without trouble. The plan of giving variety in the food is good. Hay, stalks and straw are good for the three feeds, giving one feed of each. Some of our farmers seem to prefer feeding but twice a day, but my practice has been to feed three times a day from November to spring. When we go out to milk in the early morning the

cattle are all fed and along before noon they are turned out to drink, after which they are fed again, and then at dark, when all are put up for the night. Nearly all the feeding is done in the stables, and the cows are milked there in winter and summer. Even the corn stalks are fed in the stables, the only inconvenience being that they make the manure a little unpleasant to handle; but everything is saved, and I regard it as the best way to feed. For the grain feed buckwheat bran and wheat bran are both good, together or separate, and so is a mixture of corn and oats ground together, or corn meal mixed with brans. For horses I think two bushels of oats and one of corn mixed and ground are excellent, better than corn alone. At present I am feeding my horses corn in the ear, nine or ten ears a day, with very little work, not because it is the best feed but because by accident I happen to have the corn.

I did not attend the last meeting, but I have heard that stables were freely discussed, especially stanchions. After many years use of stanchions I am free to say that I think it quite safe for cattle to stand in them twenty out of the twenty-four hours of every day in winter. I never had any trouble from their use, nor any injury to the cattle by being confined in them. They may easily be constructed so as to be used with comfort to the animals and profit to the owner. The bottom rail should be very narrow, so that it will not impede respiration when the cattle are lying with their necks across it. And I have noticed that when used for cows it is essential that the upright piece on the right side (the side on which milking is done) should be very narrow, so that the cow may see when the milker approaches. It is just as well not to be kicked, and this little precaution will save much of the risk. The platform on which the cows stand should be just about five feet in length and then a drop, no gutter. It is easy to keep the stables clean by such an arrangement and there is greater ease in placing the cattle in the stanchions in the absence of a deep gutter.









